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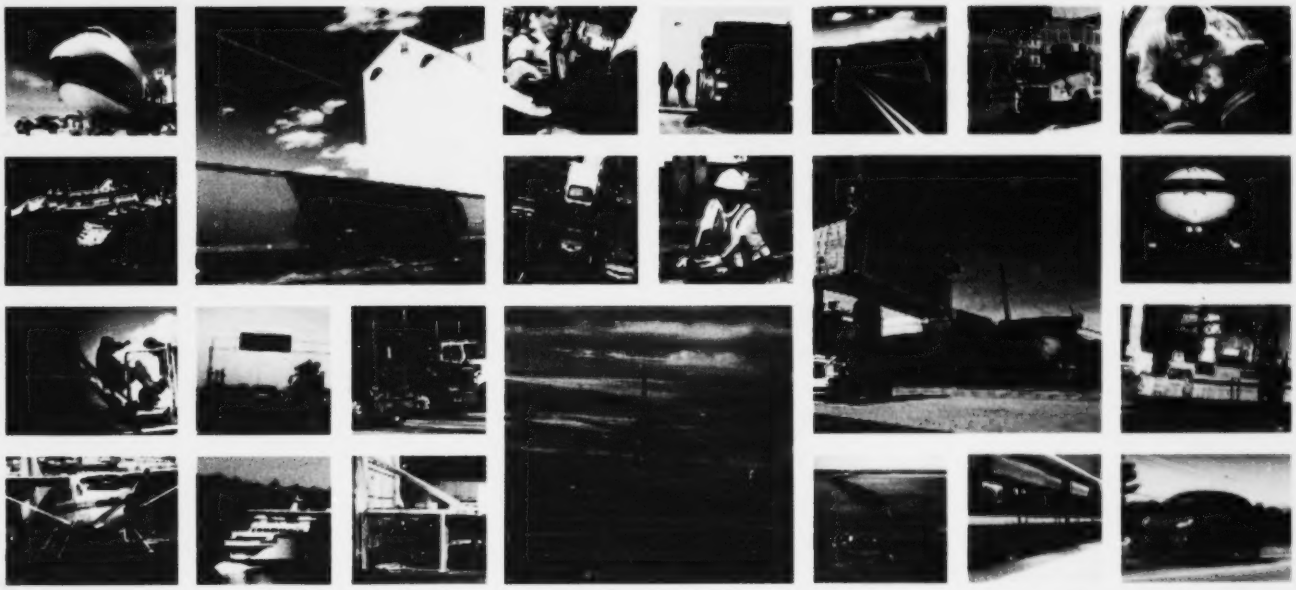

Transportation in Canada 2006

Annual Report

Transport Canada
Transports Canada

Canada

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Minister of Transport,
Infrastructure and Communities

Ministre des Transports,
de l'Infrastructure et des Collectivités

Ottawa, Canada K1A 0N5

2007-03946/

AUG 23 2007

Her Excellency the Right Honourable Michaëlle Jean, C.C., C.M.M., C.O.M., C.D.
Governor General of Canada
Rideau Hall
1 Sussex Drive
Ottawa ON K1A 0A1

Excellency:

It is with great pleasure that I submit to your attention the eleventh Annual Report on the state of transportation in Canada. This report is produced in conformity with the statutory requirements outlined in Section 52 of the *Canada Transportation Act*.

The year 2006 had its share of challenges. Pressure on Canada's transportation system came from energy prices and the sustained impact of rapidly growing economies like China on the country's economy as well as its gateways and trade corridors.

The report presents an analysis of the most recent information available and examines the role played by the Canadian transportation system in the production, distribution and consumption of goods and services. It also allows a better understanding of the evolution of transportation demand and of the transportation system in response to changing needs and market conditions.

This eleventh report on the state of the Canadian transportation system, as the previous reports, provides relevant information for policy development, planning and program management.

Yours truly,

Lawrence Cannon

The Honourable Lawrence Cannon, P.C., M.P.

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REPORT HIGHLIGHTS

TRANSPORTATION AND THE ECONOMY

- In 2006, the Canadian economy grew at 2.7 per cent, a slightly slower rate than in 2005.
- Consumer expenditures increased by 4.1 per cent and contributed the most to economic growth.
- During the course of the year, the rise and fall in the price of crude oil drove the rise and fall in the value of the Canadian dollar.
- The Canadian dollar rose to a 28-year high of US$0.910 on May 10, 2006. The average value of the Canadian dollar against the U.S. dollar increased 6.8 per cent in 2006.
- The value of the Canadian dollar rose by 28 per cent from January 2002 to December 2006.
- The consumer price index (CPI) increased by two per cent in 2006. Energy prices and home ownership replacement costs rose by 5.1 and 4.2 per cent, respectively. Transportation prices rose 2.7 per cent and gasoline prices increased by 5.5 per cent.
- In real terms, personal disposable income per capita increased by 3.7 per cent in 2006.
- Canada's average number of persons employed increased by 1.9 per cent.
- All provinces and territories experienced economic growth in 2006, with Alberta, British Columbia and Manitoba faring better than all other provinces.
- Canada's trade with the United States decreased by one per cent from 2005. Canada's trade with countries other than the United States increased by 10 per cent, driven mostly by imports.
- In terms of value, trucking accounted for 61 per cent of trade with the United States, rail 17 per cent, pipeline 13 per cent, air five per cent and marine four per cent.
- Around 75 per cent of Canada–U.S. trade (in value terms) carried by trucks took place at six border crossing points: Windsor/Ambassador Bridge, Fort Erie and Sarnia, in Ontario, Lacolle in Quebec, Emerson in Manitoba and Pacific Highway in British Columbia.
- In 2006, Canada's trade with countries other than the United States totalled $257 billion. Imports were more significant than exports and, in terms of both value and volume, marine and air transportation were the two dominant modes for this trade.
- Of Canada's top 20 trade partners, six countries had a two-digit average annual growth rate in their trade with Canada from 1996 to 2006.
- In 2006, China ranked second ($34.3 billion) and fourth ($7.7 billion), respectively, in terms of Canada's total imports and exports.
- Tourism expenditures, including expenditures on transportation, were up in 2006. Air transportation expenditures rose 8.3 per cent. In 2006, overall international travel to and from Canada was unchanged as the number of people visiting Canada fell, while the number of Canadians travelling outside Canada rose.
- Transportation energy use increased by 1.8 per cent in 2005. Air used 5.1 per cent more energy in 2005 than in 2004. Rail used 1.3 per cent more energy, while for-hire trucking transportation used 8.1 per cent more.
- In 2006, the annual average price of crude oil per barrel increased by 16.9 per cent, affecting carriers' operating costs and transport service prices.
- The retail prices of road gasoline and diesel rose by 5.8 and 4.5 per cent, respectively, while the increase in rail diesel fuel was estimated at eight per cent and at 15.9 per cent for jet fuel.

- Productivity gains in rail transportation in 2005 were due largely to other materials and services used in the production of commercial rail freight transport services. The gains in air transportation were due to a number of factors. Public transit productivity was down in 2005. Average price increases for most transportation services were driven by increases in fuel costs.
- In 2006, commercial transportation services accounted for 4.3 per cent of Canada's value-added gross domestic product (GDP).
- In 2005, the importance of transportation to provincial/territorial GDP was most significant in Ontario and Quebec. Together, these provinces contributed 54 per cent of commercial transportation activity nationally under GDP.
- Investment in transportation accounted for 2.9 per cent of Canada's GDP in 2006.
- Personal expenditures on transportation represented 8.8 per cent of final domestic demand in Canada in 2005.

GOVERNMENT SPENDING ON TRANSPORTATION

- In fiscal year 2005/06, all levels of government combined spent $24.2 billion on transportation expenditures net of transfers, $2.5 billion more than in 2004/05. Federal, provincial and local government expenditures all increased. The largest increase was $2.0 billion, spent by provincial/territorial governments.
- In 2005/06, all government levels collected $15.7 billion in permit and licence fees and fuel taxes from transport users, 0.5 per cent more than the previous year.
- In 2005/06, direct federal transport expenses are expected to increase to $2.2 billion, a 4.6 per cent increase from 2004/05. The federal government's two main categories of transportation expenditures are a) operations and b) safety, security and policy activities.
- In 2006/07, total direct federal subsidies, grants and contributions are expected to grow to $1,380 million, five per cent, or $66 million more than in 2005/06.
- Provincial, territorial and local governments spent $20.8 billion on transportation in 2005/06, roughly 10.8 per cent more than in 2004/05. About 80 per cent of this went to highways and roads.
- In 2005/06, governments spent $17.4 billion on roads and $3.3 billion on public transit services. Federal and provincial governments spent $2.4 billion on air, marine and rail transportation.

TRANSPORTATION SAFETY AND SECURITY

- The most recent public opinion survey continued to indicate that for all four transportation modes, over 96 per cent of Canadians rate transportation in Canada either as *moderately* or *extremely* safe and secure.
- In 2006, Transport Canada maintained its regulatory and safety oversight responsibilities, implemented a number of improvement initiatives, and continued to implement Safety and Security Management Systems in the air, rail and marine industries. In 2006, there were fewer fatalities in the aviation, marine and rail transportation modes. There was an increase in road transportation fatalities in 2005, the most recent year for which information is available. However, the number of reported accidents decreased in the marine, rail and aviation transportation modes in 2006 and increased for the road transportation mode.
  - Rail-related accidents decreased from 1,247 in 2005 to 1,141 in 2006. Fatalities decreased from 103 to 94. Crossing accidents at public automated crossings decreased from 160 to 114, while at public passive crossings, they increased from 71 to 75.
  - In 2005 (latest data), there was a 0.2 per cent increase in road casualty collisions, a 7.3 per cent increase in road-related fatalities and a 0.8 per cent decrease in road-related injuries.
  - There were 396 Canadian vessel accidents in 2006, down from 416 in 2005. As in previous years, the majority of marine accidents were shipping accidents. A total of 12 lives were reported lost in 2006, down from 13 reported the year before and below the previous five-year average of 15.4. A total of 30 confirmed vessel losses were reported. Fishing vessels accounted for 51 per cent of the total reported marine accidents, while commercial vessels accounted for 37 per cent.
  - There were 238 Canadian-registered aircraft involved in reported accidents in 2006, down from 244 in 2005. Of these, 131 involved commercially operated aircraft, while 109 were associated with private/recreational aviation. One commuter operations accident was reported in 2006 and no fatalities. Of the 59 accidents related to air taxi operations, eight were fatal accidents causing 20 fatalities.
  - A total of 370 accidents in the transportation of dangerous goods were reported in 2006, down from 386 in 2005. Also in 2006, six fatalities and 40 injuries resulted from accidents involving dangerous goods. Of these, 17 injuries and one fatality were directly associated with the dangerous goods themselves.

- Transportation security continued to be strengthened in Canada in 2006. Transport Canada continued to take action with other federal departments, other countries and international organizations, labour organizations, industry and other stakeholders.
  - Important aviation security initiatives in 2006 included legislative and regulatory enhancements, programs such as the Aviation Transportation Security Clearance Program, and international initiatives. Security regulations developed in 2006 enhanced pre-board screening to include the prohibition of certain liquids and gels on board aircraft and to enhance access to airports' restricted areas.
  - Amendments to the Marine Transportation Security Regulations were published in the *Canada Gazette*, Part II on November 15, 2006. During the year, the administrative set-up in support of the Marine Transportation Security Regulations was developed.
  - In 2006, the federal government committed $115 million over five years to enhance the security of Canada's passenger rail and urban transit operators.
  - In 2006, Transport Canada focussed on training and exercising to ensure effective response to all incidents, emergencies and crises affecting the transportation system.
  - Transport Canada continued to share information and best practices, increasing its capabilities to respond in the event of an incident in relation to the Chemical, Biological, Radiological and Nuclear (CBRN) Response Project for the transportation of dangerous goods.

TRANSPORTATION AND THE ENVIRONMENT

- In 2006, the federal government made a commitment to develop a comprehensive Environmental Agenda that encompasses a new approach to address climate change and clean air, with a budgetary allocation of $2 billion over four years for its implementation. The new approach integrates climate change and clean air. It is made up of early action and investment initiatives and near-term legislative and regulatory actions to limit air pollutants and greenhouse gas (GHG) emissions starting in 2010.
- In 2005, on-road and off-road diesel engines accounted for roughly 70 per cent (off-road diesel alone accounts for 56 per cent) of transportation-related $PM_{2.5}$ emissions and 52 per cent of transportation-related emissions of nitrogen oxides (NO_X). Gasoline engines account for 88 per cent of transportation-related emissions of volatile organic compounds (VOC). Marine transportation is responsible for 49 per cent of transportation-related emissions of sulphur oxides (SO_X).
- In 2004, 758 megatonnes (Mt) of carbon dioxide (CO_2) equivalent were generated by Canadians, of which 190 Mt, or 25 per cent, came from transportation. On-road emissions accounted for 76 per cent of total transportation emissions. Domestic air-transportation emissions accounted for four per cent, rail and domestic marine each for three per cent. Off-road and pipelines accounted for the remaining 15 per cent of total GHG emissions from transportation.
- Between 1990 and 2004, GHG emissions from on-road passenger travel increased by roughly 16 per cent, while from on-road freight transport activity they increased by 73 per cent. The passenger and freight transport activities over the same period increased by 30 and 125 per cent, respectively. This indicates improvement in the GHG intensity over that period.
- At 17 Mt in 2004, aviation is the largest non-road contributor to transportation GHG emissions. The marine sector is the next largest, at nine Mt, but has remained relatively constant from 1990 to 2004. Rail emissions accounted for six Mt, a 15 per cent reduction from 1990.
- On October 21, 2006, a Notice of Intent to develop and implement regulations and other measures to reduce air emissions was published in the *Canada Gazette*. The scope of the regulations includes some off-road vehicles and engines not previously regulated, such as heavy-duty diesel engines used in off-road applications as well as on-road motorcycles, small scooters and mopeds.
- The intent of the government is to regulate the fuel consumption of road motor vehicles under the *Motor Vehicle Fuel Consumption Standard Act*.
- Transport Canada's fourth Sustainable Development Strategy was tabled on December 13, 2006. It addresses seven strategic challenges and 21 specific commitments for action.
- Given that speed impacts both safety and GHG emissions, a research program on the effectiveness of Intelligent Speed Adaptation in helping compliance with speed limits and a review of issues behind mandating speed limiters for trucks have been initiated.

- Budget 2006 announced a non-refundable tax credit to cover a portion of the cost of a monthly pass for commuting with public transport services.
- Federal initiatives were pursued to manage our interaction with the environment, such as Environmental Management Systems, environmental assessments, and integrating environmental and community knowledge in decision making.
- Numerous initiatives were also pursued at the provincial level, touching a broad spectrum of objectives. Examples include some related to public transit systems, to the implementation of new departmental green vehicle fleet policies, and to road salt management policies and their alignment with Environment Canada's guidelines.

RAIL TRANSPORTATION

- The rail system network remained relatively stable again in 2006. The only track discontinuances (108 kilometres) were in British Columbia and Ontario made by Canadian National railway (CN) and by Canadian Pacific Railway (CPR).
- Approximately 209 kilometres of track were transferred in 2006. A total of 1,131 kilometres of Rail America operations were transferred to CN, and an additional 339 kilometres was the object of a reversion back to CN.
- Of total rail revenues in 2005, 93 per cent were generated by CN, CPR and VIA Rail.
- Class I railways consumed 1,965 million litres of fuel in 2005, slightly more than in 2004 but less than in 1990.
- CN reported a five per cent increase in revenue tonne-kilometres in 2004, while CPR's output increased by almost 8.7 per cent.
- In 2006, rail car loadings decreased to 284 million tonnes. In western Canada, volumes moved by rail remained at 157 million tonnes, while volumes in eastern Canada decreased by 1.4 per cent to 127 million tonnes.
- Shipments of coal and coke decreased to 32.8 million tonnes in 2006, chemicals increased slightly to 15.6 million tonnes, iron ore was steady at 37.5 million tonnes, and forest products were at 48 million tonnes. Grain shipments totalled 31.8 million tonnes, while rail shipments of fertilizer materials decreased to 26.6 million tonnes, and automotive products fell six per cent to 4.6 million tonnes.
- Export rail tonnage increased 2.7 per cent in 2006 to 78 million tonnes.
- Forest products and chemicals were the largest contributors to the rail export tonnage, and exports of grains were up considerably.
- The largest share of rail export volume to the United States originated in Ontario (23 per cent), although this was less than the previous year.
- In 2006, import rail tonnage increased by five per cent to 25.7 million tonnes. Imports of chemicals increased and automotive imports continued to increase.
- Fort Frances and Sarnia, both in Ontario, accounted for 22.4 and 15.6 per cent of rail-exported trade, respectively. Forest products and chemicals were the major commodities exported at these border crossings. In terms of value, the leading border crossing points for imports were Sarnia and Windsor, with automotive products topping the commodities exported through these locations.
- Class I railways moved 101 million tonnes of goods to and from Canadian ports in 2005, up 3.3 per cent from 2004.
- British Columbia, Saskatchewan and Alberta experienced increases in rail–marine exports in 2005. Rail–marine exports decreased overall by 2.9 per cent. Rail–marine imports remained steady at 10.8 million tonnes, with 81 per cent having to do with intermodal traffic. Quebec and Ontario remained the two major destinations for this traffic.
- Intercity rail passenger traffic increased by five per cent in 2005. VIA Rail reported 4.3 per cent more passengers carried.
- The productivity of rail freight carriers increased by 2.4 per cent in 2005, while VIA Rail's productivity increased by 2.1 per cent.

ROAD TRANSPORTATION

- With respect to trucking firms, in 2005, general freight carriers accounted for 60 per cent of the for-hire revenues of the industry.
- Truck carriers with annual revenues of $12 million or more accounted for 55.2 per cent of the trucking revenues generated by trucking firms with at least $1 million of annual revenues.
- The reported sales of Class 8 trucks (trucks with a gross weight exceeding 15,000 kilograms) reached a record in 2006, with sales of 39,131 vehicles.
- TransForce Income Fund topped the list of for-hire trucking companies in Canada for total number of vehicles (tractors/trailers) in their fleet.

- According to the 2005 Canadian Vehicle Survey, there are 17.9 million (in scope) light vehicles (i.e. gross weight less than 4,500 kilograms) in Canada. This includes 10.3 million passenger cars and station wagons, 2.9 million vehicles listed as vans, 3.3 million pickup trucks and 1.4 million sport utility vehicles (SUVs).
- Vans, SUVs and light trucks accounted for 42 per cent of the light vehicle fleet in 2005. They were driven on average eight per cent more than cars and station wagons (16,700 versus 15,400 kilometres) and had a marginally higher vehicle occupancy ratio (1.86 persons) than cars and station wagons (1.62 persons).
- In 2005, light vehicles, cars and station wagons accounted for 159 billion vehicle-kilometres while vans and light trucks accounted for 1,268 billion vehicle-kilometres.
- In 2005, there was an average of 557 vehicles per 1,000 people in Canada.
- According to the Canadian Vehicle Survey, there were 615,000 (in scope) heavy trucks (gross weight of at least 4,500 kilograms) in Canada, of which 321,000 were medium-sized, weighing between 4,500 and 15,000 kilograms. A total of 294,000 were Class 8 (heavy) trucks.
- Ontario (37 per cent), Alberta (25 per cent) and Quebec (13.5 per cent) accounted for over 75 per cent of the heavy truck fleet.
- Heavy trucks accounted for 21.5 billion vehicle-kilometres in 2005, compared with six billion vehicle-kilometres for medium-sized trucks.
- Empty haul movements accounted for 13 per cent of heavy truck vehicle-kilometres in 2005, compared with about five per cent for medium-sized trucks.
- Canadian for-hire trucking firms carried over 80 per cent of total tonnage shipped intraprovincially.
- In 2006, the exports from Canada shipped by trucks totalled $185.8 billion down from $188.4 billion in 2005. Imports from the United States shipped by trucks amounted to $166 billion in 2006, up from $164.7 billion in 2005.
- In domestic activities, construction materials are the top commodities moved by trucks intraprovincially, followed by agricultural products, primary metals, metal and mineral products, and energy products.
- The main interprovincial trucking flow was the Quebec–Ontario route (both directions), which accounted for $40.4 billion worth of commodities, or 28 per cent of the total interprovincial trade.
- Five commodity groups represented almost 80 per cent of total exports in 2005: automobiles and transport equipment, machinery and electrical equipment, other manufacturing products, plastics and chemical products, and base metals/articles of base metal. The same five commodity groups represented 87 per cent of imports.
- The busiest transborder trucking routes were Ontario–U.S. central region, Ontario–U.S. south region and Ontario–U.S. northeast region. Combined, they accounted for almost 80 per cent of the shipments.
- Heavy truck activity across the Canada–U.S. border fell about one per cent in 2006 to 12.9 million two-way trips, still below the 2000 peak.
- The revenues of urban transit operators increased by 7.2 per cent in 2005. Overall, total transit output in Canada increased by 2.7 per cent, while prices rose by 3.5 per cent.
- In 2005, total factor productivity of transit systems decreased by 4.3 per cent.

MARINE TRANSPORTATION

- The National Marine and Industrial Council — an industry–government forum — was established in 2004 to enhance dialogue between the federal government and the marine industry, to promote linkages and coordination on marine sector initiatives, and to provide cohesiveness across a core group of federal departments with mandates and interests in marine transportation. The Council has held biannual meetings since its establishment.
- By 2006 year-end, 83 regional/local and remote ports and port facilities remained under Transport Canada's control.
- Total operating revenues of Canada Port Authorities (CPA), which are financially self-sufficient ports critical to domestic and international trade, reached $309 million in 2005, down 0.4 per cent from 2004. Vancouver and Montreal accounted for roughly 57 per cent of this total.
- Tonnage handled at CPA ports totalled 250 million tonnes of cargo in 2005.
- In 2005, CPAs handled 54 per cent of total port traffic.
- Of all fishing harbours, 687 were managed by harbour authorities at the end of 2006.
- One of the four pilotage authorities experienced a deficit in 2006, a loss of $735,000.

- The Canadian Coast Guard's net expenditures in 2005/06 were $507.4 million.
- The two main sections of the St. Lawrence Seaway — the Montreal–Lake Ontario section and the Welland Canal section — attracted an estimated 47 million tonnes of traffic in the 2006 season, an increase 3.8 million tonnes over 2005.
- In 2006, international cruise ship traffic decreased at Vancouver but increased at Montreal and Quebec City.
- In 2005, marine freight traffic was estimated at 395 million tonnes, up 2.9 per cent from 2004. This total is made up of 69.5 million tonnes related to domestic flows, 127.4 million tonnes to transborder traffic and 198 million tonnes of other international traffic.
- A total of $130 billion in trade was handled by marine transportation services, $69.4 billion in imports and $60.5 billion in exports.

AIR TRANSPORTATION

- Canada's international air transportation policy was modified in May 2006 to allow Canadian air carriers to apply to the Minister of Transport, Infrastructure and Communities for designation to operate international scheduled air services.
- A federal–provincial–territorial task force submitted a report to the Council of Ministers Responsible for Transportation and Highway Safety in September 2006 on the viability of small airports in Canada. The report highlights the missions and roles of small airports, the factors impacting that viability, and a number of options for actions.
- In 2006, Canada's air carriers adopted measures to overcome cost and revenue challenges emanating from matters such as fuel price increases.
- Operating results of airport authorities eroded slightly in 2005 due to a growth in passenger traffic that was insufficient to offset cost increases.
- Capital spending at National Airport System (NAS) airports totalled $1.2 billion in 2005, 81 per cent of which came from Toronto, Montreal and Vancouver airports.
- In 2005, revenues from airport improvement fees increased by $87.7 million to reach $504 million and 24 per cent of total NAS airports revenues.
- In 2006, airports across Canada received $27 million to fund 41 new projects under the Airports Capital Assistance Program.
- Air Canada, with its sister company, Jazz, offered the largest network of national scheduled air services: 12 domestic points, 33 points in the United States and 59 other international destinations served by Air Canada and 69 destinations served by Jazz. WestJet operated the second largest network of air services with 23 Canadian points, 11 U.S. points plus Nassau, Bahamas. There was also a third network operated through an interlining agreement between Canjet and Harmony Airways but Canjet ceased operating scheduled air services in September 2006.
- Canadian leisure carriers providing international services to leisure destinations in 2006 included Air Transat, Skyservice Airlines, Harmony Airways, Zoom Airlines and Sunwing Airlines.
- Airlines providing year-round scheduled and charter services across northern Canada included First Air, Canadian North and Air North. Aklak Air, Kenn Borek Air, Buffalo Airways, Arctic Sunwest, Air Tindi and North-Wright Airways.
- A number of all-cargo airlines provided jet service in 2006 on behalf of Canada Post, courier companies, freight forwarders, consolidators and shippers: Cargojet Canada, Kelowna Flightcraft and Morningstar Air Express.
- At the end of 2006, more than 2,311 airline licences were active, an indication of the wide number of airlines operating in Canada.
- The business segment of air activity continued to grow in 2006, mainly as a result of fractional ownership.
- Canada's air trade with countries other than the United States increased by 11.8 per cent in 2006.
- The number of tonnes carried by Canadian air carriers decreased by 0.7 per cent in 2005.
- Air passenger traffic in 2006 set record levels at over 683 million passengers, five per cent more than in 2005. Domestic traffic grew by 6.7 per cent, while the transborder and international sectors grew by 3.9 and 4.5 per cent, respectively.
- Air Canada, along with Jazz, provided approximately 61 per cent of the Canadian air carrier industry's overall scheduled capacity in 2006. The share of Air Canada in the overall transborder scheduled capacity was approximately 42 per cent, and 46 per cent in other international air services.

INTRODUCTION 1

The 2006 Annual Report presents the state of transportation in Canada with the most current information available.

The Minister of Transport has a statutory responsibility to table in Parliament, each year, an annual report on the state of transportation in Canada. This responsibility derives from Section 52 of the *Canada Transportation Act* (1996):

"Each year the Minister of Transport shall, before the end of May, lay before Parliament a report briefly reviewing the state of transportation in Canada in respect of the preceding year, including:

(a) the financial viability of each mode of transportation and its contribution to the Canadian economy and the development of the regions;

(b) the extent to which carriers and modes of transportation were provided resources, facilities and services at public expenses;

(c) the extent to which carriers and modes of transportation received compensation, indirectly or directly, for the resources, facilities and services that were required to be provided as an imposed public duty; and

(d) any other transportation matters the Minister considers appropriate."

The 2006 Annual Report is the eleventh such report submitted by the Minister since the coming into force of the *Canada Transportation Act*. In producing this report, Transport Canada used the most current data and information available to present an overview of transportation in Canada. The most current data means the most recent year for which data were available, which was not always 2006. While the scope of the report goes beyond the federal transportation responsibilities, limited attention was paid to urban and intermodal transportation matters. The report nevertheless offers a broad, comprehensive coverage of Canada's transportation system.

The annual report Addendum contains more detailed information on subject matters covered in the overview of transportation presented in the report itself. Readers interested in more detailed and/or time series information are invited to consult this Addendum on Transport Canada's Web site at www.tc.gc.ca. Individual references to the Addendum are found either in the text per se or in footnotes to the text or to tables and figures. Information contained in tables or used to produce figures in last year's report are either updated in the report itself or found in tables in the Addendum. In addition, all annual reports since 1996 are accessible at www.tc.gc.ca.

In one way or another, transportation is a part of all social and economic activities. Transportation opens markets to natural resources, agricultural products and manufactured goods, and it supports service industries. It also overcomes the challenges delimited by topography and geography, linking communities and reducing the effects of distances separating people from each other. Such essential roles of transportation reflect its intertwined and interdependent relationships with the economic and social fabrics of our society. But transportation needs evolve over time as circumstances and conditions change.

Changes in economic activities affect transportation demand. The changes can take place at various levels, at the regional or sectoral levels, for example. We must keep in mind that demand for transportation services originates from all sectors of the economy — that is, transportation demand is a derived demand. Changes in trade patterns and activities also affect transportation demand and they force adjustments to the supply of transportation services and to transportation infrastructure to accommodate actual and foreseeable trade-driven changes.

1 INTRODUCTION

The review of the state of transportation in Canada begins with a review of the performance of the Canadian economy (Chapter 2). The Addendum contains relevant detailed information on employment, trade and tourism as well as on transportation energy consumption.

The most recent information on government transportation spending and revenues is found in Chapter 3, which addresses the Section 52 (b) requirement related to the statutory mandate for the annual report. Some of the government transportation spending is directed at specific transportation system infrastructure assets. It is important to remember that the public sector does not plan nor fully control all expenditures and investments in Canada's transportation system. Nonetheless, this chapter does not cover such expenditures and investments made by the private sector.

Safety and security in the transportation system is reviewed in Chapter 4. The safety of Canada's transportation system remains a fundamental priority for Canada. This chapter gives an up-to-date overview of the most recent accidents and incidents statistics by mode. It also covers the enhancements to security — specifically those made in 2006 — since the increased emphasis placed on security following the events of September 11, 2001.

Transportation and the environment is reviewed in Chapter 5, with special attention given to environmental trends in transportation. This includes the whole aspect related to climate change and an overview of the climate change initiatives. It also reviews environmental management-related matters associated with Transport Canada's responsibilities and activities.

The most recent information on transportation by modes of transportation is presented in chapters 6 to 9. For rail (Chapter 6), marine (Chapter 8) and air transportation (Chapter 9), the coverage is structured as special events in 2006, infrastructure, industry structure, freight and passenger transportation activity levels, and, where applicable, intermodalism and performance. All road-related transportation is regrouped in Chapter 7, with coverage of the same subject matters as found in the three modal chapters.

Most of the data used and presented in this report or in the Addendum came from organizations other than Transport Canada. Such external sources bear the onus for data validation. Transport Canada devoted proper care and attention to data quality and limitations when producing this report, and used footnotes where needed to flag issues. When issues were identified, they were flagged to the "source" of the information. Given the constraint of the statutory deadlines under which this report is produced, an issue was not pursued further if the validity of the information was confirmed. In this report, it is only exceptionally that attempts to circumvent data limitations by estimating were made. The final point to flag to the reader is that the report does not attempt to present a prospective view of Canada's transportation system.

TRANSPORTATION AND THE ECONOMY 2

In 2006, as for the previous year, the most significant source of economic growth was consumer expenditures.

CANADIAN ECONOMIC PERFORMANCE

In 2006, Canadian economic growth moderated slightly, as real gross domestic product (GDP) at market prices grew 2.7 per cent, down from 2.9 per cent in 2005 and 3.3 per cent in 2004. Growth was strongest in the first quarter but then eased throughout the year. Both the price of crude oil and the value of the Canadian dollar reached record highs during the year but then both declined. Short-term interest rates rose during the beginning of the year and then remained steady. Domestic demand from consumer expenditures and non-residential construction remained strong but residential construction and net exports were weak. There continued to be very strong economic growth in the western provinces, while the high Canadian dollar and the slowdown in the United States hurt the manufacturing sector in the central provinces.

Consumer expenditures increased 4.1 per cent in 2006, just above the 3.9 per cent increase in 2005, and contributed the most to economic growth. Spending on durable goods and semi-durable goods rose 6.8 per cent and 7.2 per cent, respectively, while spending on purchased transportation rose 4.1 per cent. New motor vehicles sales increased 2.2 per cent, compared with the 3.5 per cent increase in 2005, when purchasers were offered large incentives. There were 227,400 new housing starts, up 0.9 per cent and the second highest in nearly two decades. Investment in residential construction rose 2.4 per cent, compared with increases of 3.2 per cent in 2005 and 7.8 per cent in 2004. Investment in non-residential structures increased 10.7 per cent, about three per cent more than the previous two years. Investment in machinery and equipment grew at 8.0 per cent, the first time in three years it grew at less 10 per cent. Overall business investment increased 6.7 per cent, down slightly from the previous year. Government spending on goods and services rose 3.4 per cent, while investment by government rose 6.6 per cent; these are similar to the rates of increase in 2005. The international sector was once again a weak area, as exports of goods and services increased at only 1.3 per cent in real terms, while imports increased 5.2 per cent. These figures compare with increases of 2.1 per cent and 7.1 per cent, respectively, in 2005.

Table 2-1 shows economic indicators in Canada for 2006.

TABLE 2-1: ECONOMIC INDICATORS, 2006

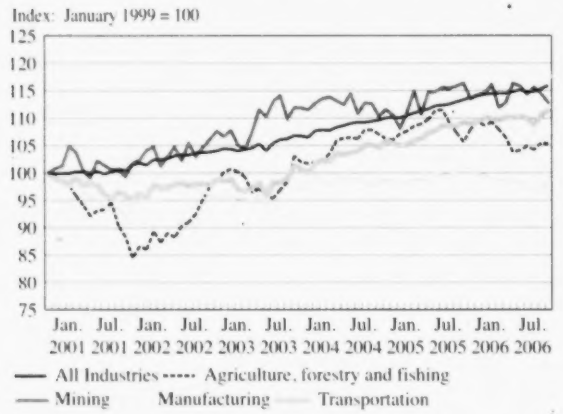
	2006	*Percentage change 2005 – 2006*	*Annual percentage change 2000 – 2005*
GDP at Basic Prices (millions of constant 1997 dollars)			
Total Economy	1,100,286	2.9	2.5
Goods	334,384	0.8	1.2
Agriculture	14,115	(0.6)	(0.2)
Forestry	6,803	(3.9)	2.7
Mining	40,127	0.9	2.3
Manufacturing	175,224	(0.7)	(0.3)
Construction	67,619	7.1	5.3
Services	765,902	3.8	3.1
Retail trade	67,296	5.8	4.8
Transportation	45,774	2.8	2.1
Merchandise Trade (millions of dollars)			
Exports	458,570	1.2	1.1
Imports	404,279	4.1	1.4
Income (dollars)			
Personal Disposable Income per capita	25,624	5.1	3.2
Canadian Dollar (U.S. cents per unit)	88.2	6.8	4.2
Employment (thousands)	16,484	1.9	1.8
Population (thousands)	32,623	1.0	1.0
Prices			
Total Economy (1997=100)	121.0	2.2	2.3
Consumer Price Index (1992=100)			
All Items	129.9	2.0	2.3
Transportation	154.8	2.7	2.9

Source: Statistics Canada Cat. No. 11-010, 13-001, 15-001, 62-010; Bank of Canada

In 2006, GDP at basic prices by industry grew 2.9 per cent in real terms, the same as in 2005. There was only 0.8 per cent growth in the goods sector, compared with 3.8 per cent in the services sector. The low rate of growth rate in the goods sector was due to the 0.7 per cent decrease in manufacturing output as well as the 0.6 and 3.9 per cent decreases, respectively, in agriculture and forestry. These declines were counterbalanced by advances in the mining sector, which grew 0.9 per cent, and in construction, where output grew by 7.1 per cent. Non-residential construction activity was again stronger than residential activity. Retail trade increased 5.8 per cent, while wholesale trade increased 8.1 per cent. Transportation-services output grew only 2.8 per cent, in line with the overall growth of the economy.

Figure 2-1 shows the changes in real GDP since 2001.

FIGURE 2-1: REAL GDP BY MAJOR SECTOR, 2001 – 2006

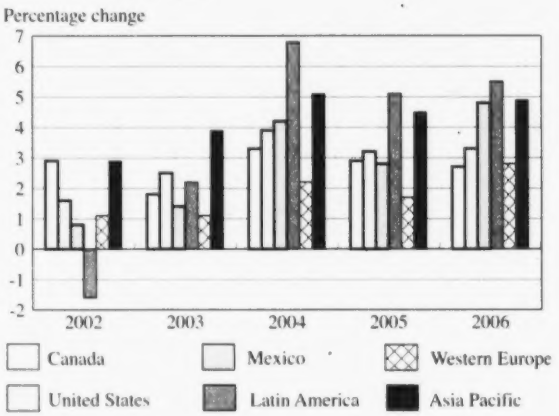


Source: Statistics Canada Cat. No. 15-001

In 2006, the world economy grew 4.0 per cent, up from the 3.5 per cent growth in 2005. The strongest growth was in the first part of the year, as the U.S. economy weakened in the latter part. However, global economic growth was supported not just by the U.S. economy but also by growth in the rest of the world. The U.S. economy grew 3.3 per cent in 2006, compared with 3.2 per cent growth in 2005. Personal consumption expenditures and exports were strong, but a correction in the housing markets resulted in the slowing of the economy in the second half of the year. While exports increased, imports also increased; this resulted in an increase in the U.S. current account deficit. Strong exports to the United States at the start of the year combined with high oil prices and low interest rates meant that the Mexican economy grew 4.8 per cent in 2006, compared with 2.8 per cent growth in 2005. Latin America's economy grew by 5.5 per cent in 2006, up from 5.1 per cent in 2005. Strong commodity prices are the main reason behind these good growth rates. While Venezuela and Argentina had growth rates of 11.3 per cent and 8.4 per cent, respectively, Brazil's growth rate was only 2.9 per cent. This was due to the country's structural and financial weaknesses. Western Europe had a relatively respectable economic growth rate in 2006 of 2.8 per cent, up from 1.7 per cent in 2005. The recovery was initially due to export growth but it spread to investment expenditures and consumer spending later in the year. The Asia-Pacific region had growth of 4.9 per cent in 2006, up slightly from the previous year. The Japanese economy grew 2.2 per cent, up from 1.9 per cent in 2005 and the fourth year of economic growth at or above 1.5 per cent. With growth of 10.7 per cent, China enjoyed the fourth year of growth at or above 10 per cent. Both the Japanese and Chinese growth has been due to exports and investment.

Figure 2-2 compares Canada's economy with that of other regions from 2002 to 2006.

FIGURE 2-2: REAL GDP: CANADA AND OTHER REGIONS, 2002 – 2006



Note: GDP at market prices.

Source: Global Insight, Statistics Canada Cat. 13-010, U.S. Bureau of Economic Analysis

Merchandise exports on a balance of payments basis increased by 1.2 per cent in 2006 to a record level of $458.6 billion, while imports increased 4.1 per cent, or four times as fast, to $404.3 billion. This resulted in a trade balance of $54.3 billion, the lowest since 1999. Overall energy exports were stable, but falling natural gas prices offset strong crude petroleum exports. Exports of forestry and automotive products fell, while those of agricultural goods, machinery and equipment and industrial goods increased. Exports to the United States fell 1.9 per cent, while exports to the European Union and Japan rose 16.2 per cent and 2.8 per cent, respectively. Imports increased 1.9 per cent from the United States, 9.5 per cent from the European Union and 5.9 per cent from Japan.

The value of Canadian dollar against the U.S. dollar rose in the first part of 2006 from the 2005 close of US$0.863 to close at a 28-year high of US$0.910 on May 10. It then fell to close the year at US$0.852 for a net loss of just one cent U.S. The average value of the Canadian dollar against the U.S. dollar increased 6.8 per cent in 2006 to US$88.2 and has risen 28 per cent from January 2002 to December 2005. The rise and fall of the Canadian dollar during the year mirrors the rise and fall of the price of crude oil, which rose above US$77 per barrel in August and then fell to below US$60 per barrel by September, where it remained for the rest of the year.

General prices in the total economy as measured by the GDP deflator rose 2.2 per cent in 2006, compared with 3.2 per cent in 2005. Consumers paid 2.0 per cent more on average for goods and services in 2006 than they did in 2005; this followed increases of 2.2 per cent in 2005 and 1.9 per cent in 2004. The main factor behind the greater inflation was the increase in energy prices, which rose 5.1 per cent in 2006, an increase of about half the 9.7 per cent increase in 2005. Home ownership replacement costs continued to be a factor behind the general increase in the consumer price index (CPI), as they rose 4.2 per cent following on a 3.1 per cent increase in 2005. Transportation prices rose 2.7 per cent in 2006 after a 4.1 per cent increase in 2005. This reflected a much lower increase in gasoline prices in 2006, only 5.5 per cent, following the 12.8 per cent increase in 2005.

In nominal terms, disposable income per capita rose 5.1 per cent in 2006 compared with 3.2 per cent in 2005. In real terms, disposable income per capita rose 3.7 per cent, more than double the 1.5 per cent increase in 2005. The strong increase in disposable income reflects $11 billion in tax cuts and transfer payments to households.

The average number of persons employed in Canada rose in 2006 by 1.9 percent for a total of 16.5 million, following a 1.8 per cent increase in 2005. The labour force grew by 1.4 per cent, following a 0.9 per cent increase in 2005. Combined with the employment growth, this pushed the unemployment rate down to 6.3 per cent, the lowest rate since 1974. The mid-year population of Canada rose to 32.6 million, up 1.0 per cent from 2005. The average annual increase of this figure from 2000 to 2005 is also 1.0 per cent.

Provincial Economic Performance

The dichotomy between the economies of western Canada and central Canada continued in 2006 and was even more pronounced than in 2005. Both Ontario and Quebec had economic growth rates of less than two per cent, while Alberta's growth rate surpassed six per cent.

Labour problems at Voisey's Bay, operational difficulties at the Terra Nova oil field and reduced mining production in Newfoundland and Labrador held back provincial economic growth in 2006. Nonetheless, it was a big improvement from 2005. Agriculture and construction provided growth in an otherwise weak economy in Prince Edward Island. Nova Scotia had the lowest growth among the Atlantic Provinces reflecting lower natural gas production and manufacturing exports. New Brunswick benefited from a recovery in pulp and newsprint prices and from strong manufacturing activity. The service sector fared well in both provinces. While the high Canadian dollar and the U.S. slowdown affected the manufacturing sector and exports from Quebec and Ontario, domestic demand from consumer expenditures and investment provided a counterbalancing weight to their economies. The housing markets declined in both provinces. Manitoba had strong widespread growth in 2006, with construction, agriculture and mining leading the goods-producing sector. Declines in potash and uranium mining, as well as in agriculture due to lack of rain, reduced economic growth in Saskatchewan, despite the increases in construction and manufacturing. Thanks to the energy sector, Alberta had a boom year in 2006. While centered in the oil sands development, this boom spread throughout the economy and resulted in shortages in accommodation and services. This in turn has led to the highest rate of inflation in Canada. British Columbia had the second highest economic growth in 2006. Construction activity was very brisk in both the residential and non-residential sectors as preparation for the Olympics continues, as well as development of transportation infrastructure. The forestry activity was strong, reflecting accelerated harvesting because of pine-beetle damage.

Table 2-2 shows provincial economic performance

TABLE 2-2: PROVINCIAL ECONOMIC GROWTH, 2005/06

(GDP at basic prices in chained $1997)

	Percentage Change 2005-06	*Percentage Change 2000 – 2005*
Newfoundland and Labrador	3.1	4.1
Prince Edward Island	2.2	2.2
Nova Scotia	1.3	2.3
New Brunswick	2.9	2.1
Quebec	1.8	2.0
Ontario	2.0	2.2
Manitoba	3.6	1.7
Saskatchewan	0.4	1.7
Alberta	6.7	3.3
British Columbia	3.7	2.9
Territories	2.2	8.8

Source: Statistics Canada, Conference Board of Canada

in 2005/06.

INTERNATIONAL TRADE[1] AND TRADE FLOWS

Bt the end of 2006, both exports and imports of merchandise had hit a record high since the 2000 peak, reaching $439 billion and $393 billion, respectively. Canada's trade surplus (customs) with the United States was strong at $142 billion, while Canada's trade deficit with other countries reached an all-time record of $96 billion. This resulted in a consolidated surplus of $46 billion (similar to the 2003 level).

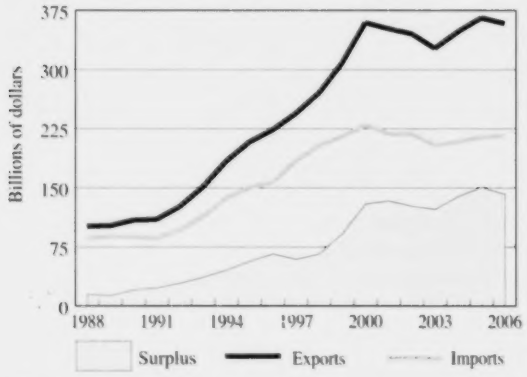
TRADE WITH THE UNITED STATES

In 2006, the United States was by far Canada's most important trading partner, capturing 69 per cent (in value) of Canada's total trade with the world, after a peak of 78 per cent in 1999. Canada's exports to the United States declined slightly in 2006 to 82 per cent of Canada's total exports, after experiencing stable shares of 84 to 86 per cent since 1998. By contrast, Canada's imports share from the United States has continuously decreased from a peak of 68 per cent of total imports in 1998 to a record low of 55 per cent in 2006. As a result, Canada's annual surplus with the United States has enjoyed a lower annual average growth of eight per cent over the last 10 years (1996 – 2006), due mainly to the vitality of Canada's exports[2] to this country.

Figure 2-3 tracks the value of trade with the United States from 1988 to 2006.

Canada's trade with the United States totalled $575 billion in 2006, a decrease of one per cent from 2005. Canada–U.S. trade peaked at $589 billion in 2000. In terms of value, trucks carried 61 per cent of this trade, followed by rail (17 per cent), pipeline (13 per cent), air (5 per cent) and marine (4 per cent). Trucking was the dominant mode for exports (51 per cent) and imports (77 per cent). By volume,[3] pipelines ranked first, at 33 per cent (mainly in exports), followed by trucks (31 per cent), rail (18 per cent) and marine (17 per cent).

FIGURE 2-3: VALUE OF GOODS TRADED BETWEEN CANADA AND THE UNITED STATES, 1988 – 2006



Note: Customs-based trade data; Preliminary data for 2006.

Source: Transport Canada (adapted from Statistics Canada, International Trade Database)

The most important trade flows between Canada and the United States involved Ontario and the U.S. Central Region,[4] totalling $161 billion. This included $75 billion from and to Michigan alone. Four of the top six Canada–U.S. trade flows involved Ontario. However, out of 14 trade flows, only six flows registered growth in 2006: four involved the Prairie provinces and U.S. regions, the other two being Quebec / U.S. South and Ontario / U.S. Northeast. Around 75 per cent of the Canada–U.S. trade carried by trucks (by value) was concentrated at six border crossing points: Windsor / Ambassador Bridge, Fort Erie and Sarnia in Ontario, Lacolle in Quebec, Emerson in Manitoba and Pacific Highway in British Columbia.

TRADE WITH OTHER COUNTRIES

In 2006, Canada's trade with other countries increased by 10 per cent to $257 billion. This increase was driven by imports valued at $177 billion. Canada's trade with other countries has registered increasing deficits especially since 1995, as imports from other countries (mainly Asian countries, led by People's Republic of China) generally exceeded Canada's exports to these countries. In 2006, around 44 per cent of Canada's trade deficit with other countries was linked to Asian countries, compared with 24 per cent in 1995. As Figure 2-4 shows, trade deficits have grown at an annual average rate of 15 per cent in last 10 years (1996 – 2006).

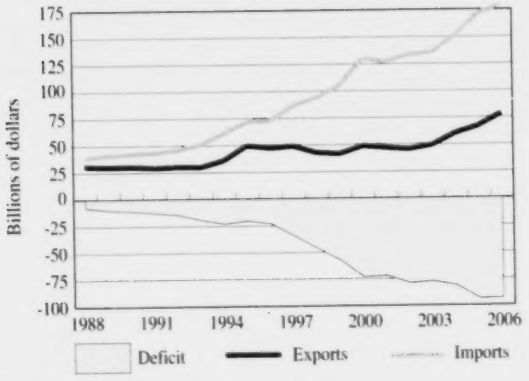
1 Customs-based trade statistics are used in this report, as detailed information on commodity, modes of transport and geographic region is presented on a Customs basis only.

2 Another factor favouring Canada's exports to the United States was the value of the Canadian dollar against the U.S. currency, which made the Canadian goods relatively less expensive to American consumers (especially over the 1994 – 2003 period).

3 2004 modal rankings are applied as 2005/2006 volume trade data are unavailable (under revision).

4 The US Central Region includes states bordering the Great Lakes area i.e., states of Michigan, Ohio, Indiana, Illinois, Wisconsin; also the states of Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas.

FIGURE 2-4: VALUE OF GOODS TRADED BETWEEN CANADA AND OTHER COUNTRIES, 1988 – 2006



Note: Customs-based trade data; Preliminary data for 2006.

Source: Transport Canada (adapted from Statistics Canada, International Trade Database)

In terms of both value and volume, marine and air were the dominant modes, capturing more than 90 per cent of the trade with the overseas countries. In 2006, four trade flows accounted for almost 80 per cent of Canada's total trade with countries other than the United States. Cargo exchanges between eastern provinces[5] and Western Europe ranked first at $72 billion ($24 billion in exports, $48 billion in imports), followed by eastern provinces / Asia trade flows at $60.4 billion, western provinces / Asia trade flows at $40.3 billion and Eastern Canada / Latin America (mainly Brazil and Mexico) trade flows at $32.2 billion. All these flows were heavily import-driven.

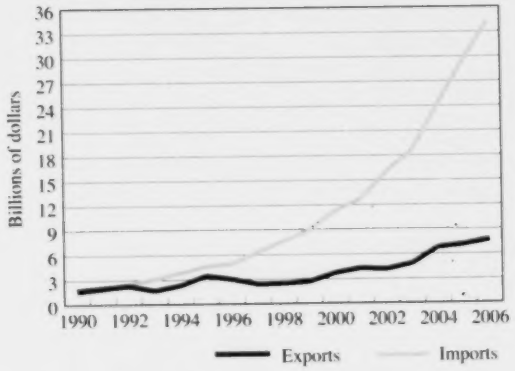
For more detailed information on Canada's trade with the United States and other countries, see tables A2-1 to A2-9 in the Addendum.

New Trends

From 1996 to 2006, the average annual growth rate for imports from non-U.S. countries reached 8.9 per cent, double the rate of exports from Canada to these countries at 4.3 per cent. Of Canada's top 20 trade partners in 2006, six countries had a two-digit average annual growth rate over the 1996 – 2006 period: Algeria (21 per cent for Canada's imports); People's Republic of China (21 per cent and 10 per cent for Canada's imports and exports, respectively); India (12 per cent and 17 per cent for Canada's imports and exports, respectively); Brazil (12 per cent for Canada's imports); Mexico (10 per cent and 13 per cent for Canada's imports and exports, respectively); and Ireland (16 per cent for Canada's imports). Addendum Table A2-10 lists Canada's top 25 trade partners in 2006, with appropriate ranking and growth rate.

The People's Republic of China increased trade with Canada and the United States has been a new driving force in North American business, putting more strain on transportation infrastructure and modal logistics. From 2001 to 2006, Canada's exports and imports with China recorded an average annual growth of 12 per cent and 22 per cent, respectively. In 2006, China ranked second ($34.3 billion) and fourth ($7.7 billion), respectively, in Canada's total imports and exports from/to the world. As a result, China has surpassed Japan and Mexico as a source of imports for both Canada and the United States. Figure 2-5 illustrates the evolution of Canada's trade with China since 1990.

FIGURE 2-5: VALUE OF GOODS TRADED BETWEEN CANADA AND CHINA (PEOPLES REPUBLIC), 1990 – 2006



Note: Customs-based trade data; Preliminary data for 2006.

Source: Transport Canada (adapted from Statistics Canada, International Trade Database)

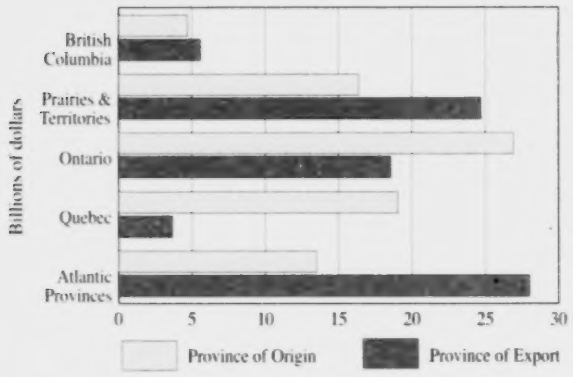
Between 1996 and 2006, marine exports to China almost tripled to reach $7 billion, while air exports were more than six times their 1996 level, totalling $830 million. The pattern is similar on the import side, as marine and air imports were four and 13 times their 1996 levels, respectively. As mentioned previously, in addition to China, Mexico, India, Brazil and other countries showed strong growth in a very short time span.

The impact of this increased trade on transportation infrastructure and the modes has been tremendous in recent years. This increased trade has also translated into more containerization, and container congestion has happened in such major west coast ports as Vancouver, Los Angeles and Long Beach. In 2006, Canada's total commodity exports to other countries (excluding the United States) totalled $80.5 billion. This included $28 billion (35 per cent) shipped through British Columbia custom points (e.g., marine ports and airports) and

5 Eastern provinces include Atlantic provinces, Quebec and Ontario; Western provinces include the Prairies, British Columbia and Territories.

$24.7 billion (31 per cent) moved through Quebec custom ports. Figure 2-6 shows Canada's exports to countries other than the United States by province of origin versus province of export. It was not possible to derive a similar import perspective from the present trade data.

FIGURE 2-6: CANADA'S TOTAL EXPORTS TO COUNTRIES OTHER THAN THE U.S., BY PROVINCE OF ORIGIN AND EXPORT, 2006



Note: Customs-based trade data; Preliminary data for 2006.

Source: Transport Canada (adapted from Statistics Canada, International Trade Database)

Almost 75 per cent of Canada's exports (by value) to Asian countries were shipped through B.C. custom ports, including most of Canada exports to Japan (84 per cent), China (77 per cent) and South Korea (73 per cent). Addendum Table A2-11 shows more details on Canada's exports moved through B.C. custom ports.

AREAS OF IMPORTANCE TO TRANSPORTATION

TRAVEL AND TOURISM

In 2006, overall international travel to and from Canada was just about unchanged from 2005, as the number of people visiting Canada fell while the number of Canadians travelling internationally rose. Americans took 28.9 million trips to Canada in 2006, 8.8 per cent fewer than in 2005. This was the second year of such a decline. Same-day automobile trips by Americans fell 12.5 per cent to 13.7 million trips, the lowest number on record for the second year in a row. Overseas travellers made 4.5 million trips to Canada in 2006, about the same number as in 2005. There were large increases in visitors from China, Mexico, France and South Korea and large drops in visitors from Japan, the United Kingdom and Germany. Overall, non-resident trips to Canada fell 7.7 per cent in 2006. Canadians made 46.9 million international trips, 6.5 per cent more than in 2005. Trips to the United States rose 6.3 per cent while trips abroad rose 8.0 per cent.

Table 2-3 shows international travel in 2006.

TABLE 2-3: INTERNATIONAL TRAVEL, 2006

	2006	*Percentage change from 2005*
Trips by Canadians	46,912,299	6.5
To United States	40,173,361	6.3
Automobile	32,758,211	6.1
Same-day	23,460,289	5.3
Overnight	9,297,922	8.2
Airplane	5,600,452	7.9
To all other countries	6,738,938	8.0
Trips by non-residents	33,390,211	(7.7)
by U.S. residents	28,872,674	(8.8)
Automobile	22,064,881	(9.9)
Same-day	13,746,928	(12.5)
Overnight	8,317,953	(5.2)
Airplane	4,175,598	(2.4)
Trips by all other non-residents	4,517,537	0.3
Total international trips	80,302,510	0.1

Source: Statistics Canada cat. No. 66-001

In 2005, Canadians made an estimated total of 207.0 million trips within Canada.[6] Of these trips, 58.3 per cent were same-day, while 41.7 per cent were overnight. Most trips (92.0 per cent) were made intraprovincially. The automobile or truck was the mode of transportation for 92.8 per cent of the trips, while commercial aircraft and bus accounted for just over two per cent each. Visiting friends and relatives was the purpose of 44.0 per cent of the trips, while the purpose was pleasure for 42.6 per cent and business for 5.0 per cent.

Tourism expenditures in Canada increased 6.7 percent in 2006 to $66.9 million, following a 7.2 per cent increase in 2005. Tourism spending by Canadians was once again stronger than spending by foreigners. In 2006, spending by Canadians increased 10.0 per cent, just below the 10.9 per cent increase in 2005. For the second year in a row, foreigners visiting Canada spent less on tourism, 1.8 per cent less in 2006 and 1.3 per cent less in 2005. Tourism spending on transportation increased 8.3 in 2006, based on increased spending on air travel of 10.8 per cent and on motor vehicle travel of 5.6 per cent.

6 Since the beginning of 2005, the Travel Survey of Residents of Canada (TSRC) has been conducted to measure domestic travel in Canada. It replaces the Canadian Travel Survey (CTS). Featuring several definitional changes and a new questionnaire, this survey provides estimates of domestic travel that are more in line with the international guidelines recommended by the World Tourism Organization and the United Nations Statistical Commission. The new survey captures out-of-town trips regardless of distance and same-day trips of at least 40 kilometres from home.

This followed a 12.7 per cent increase in tourism transportation spending in 2005. (Detailed tables on tourism are included in the Addendum.)

EMPLOYMENT

In 2006, there were approximately 881,000[7] people employed in the transportation sector full-time and part-time. By mode, the trucking and bus transport industries accounted for the greatest numbers of employees, with an estimated 363,000 employees (41 per cent) and 95,000 employees (10 per cent), respectively. Employment in air transportation services has recovered in recent years from its low of 76,600 employees in 2002 to reach 80,100 employees in 2006, close to the 2001 level but still below the 86,000 employees reported in 2000. Since the mid-1990s, the overall level of employment has increased in the bus industry, trucking services,[8] taxi and limousine services, marine transportation and pipeline transportation. The 2006 estimate of 34,700 employees working in rail services reflects that industry's continuing trend of declining employment. Rail services employed 67,000 in 1990.

For detailed information on employment and salaries in the transportation sector, see tables A2-23 to A2-48 in the Addendum.

ENERGY

In 2004, the price of crude oil had increased by 33 per cent, moving from a 2003 average of US$42 per barrel to US$57 (price on the New York Mercantile Exchange (NYMEX)). This increase was fueled by world demand — especially unrelenting demand for motor gasoline in North America — coupled with uneasiness on the markets about future supply of cheap crude oil. In particular, reports started circulating suggesting that Saudi Arabian reserves of sweet crude oil were not as extensive as previously assumed and that future production would have to come from heavier oil, which is more expensive to extract and refine.

These factors remained in place in the first half of 2005, pushing the price on NYMEX over US$59 per barrel in July (29 per cent over the 2004 average). Hurricane Katrina and the damages it caused to oil rigs and refineries in the American southeast pushed the price to a then record peak of US$66.12 per barrel in September 2005. After that, following the usual seasonal pattern, the price per barrel fell to US$58.77 in November 2005.

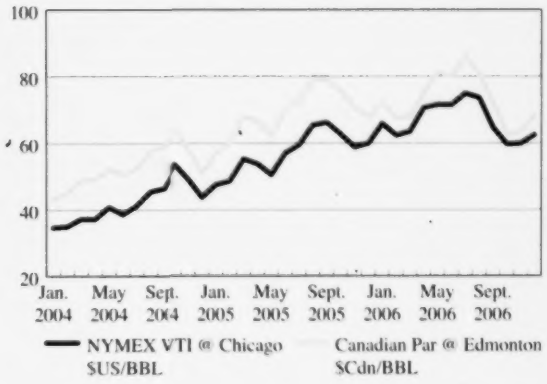
The price of crude oil started to increase again in December 2005 with the arrival of winter and the consequent high demand for heating oil, reaching US$63.44 in March 2006. Oil price increases were observed in the spring and summer, due to high travel demand. In 2006, this seasonal pattern was accentuated by the fear of new devastations to oil installations during the hurricane season.

As a result, the price of West Texas Intermediate (WTI) on the NYMEX reached an all-time monthly high of US$74.88 in July 2006. After that peak, the lack of significant hurricanes reassured the markets and the price per barrel fell by over US$15 to US$59.65 in October. The milder first portion of the winter in the eastern part of North America also helped accelerate this decline. Minor increases have been registered in the last two months of the year.

The annual average price per barrel rose by 16.9 per cent in 2006, from US$57.04 in 2005 to US$66.60 for 2006. By comparison, the average annual price per barrel in 2005 was 57 per cent above that of 2004.

Canadian oil prices have followed a similar pattern, as shown in Figure 2.7.

FIGURE 2-7: PRICE OF CRUDE OIL IN NEW YORK AND EDMONTON, 2004 – 2006



Source: M.J. Ervin & Associates

7 This estimate excludes private trucking employment.

8 A large increase identified in truck industry employment in 2004 (See Table A2-25 in Addendum), and reflected in that industry's estimated level of employment for 2005, is due to a 12 per cent increase in medium/large for-hire carriers (those earning annual revenues over $1 million) in 2004 over the carriers counted in 2003.

TABLE 2-4: FUEL PRICES FOR ROAD, RAIL AND AIR MODES, 2003 – 2006

	Road Diesel (Retail)		*Motor Gasoline (Retail)*		*Rail Diesel*		*Jet Fuel Cost to airlines Levels I - III*		*Aviation Gasoline Cost to airlines Levels I – III*	
	Cents per Litre	*Percentage of annual growth*	*Cents per Litre*	*Percentage of annual growth*	*Cents per Litre*	*Percentage of annual growth*	*Cents per Litre*	*Percentage of annual growth*	*Cents per Litre*	*Percentage of annual growth*
2003	69.11	8.6	73.19	6.3	37.46	4.3	39.21	17.9	74.02	12.5
2004	75.90	9.8	81.31	11.1	39.27	4.8	46.93	19.7	70.78	(4.4)
2205	92.78	22.2	92.31	13.5	53.26	35.6	58.99	25.7	81.76	15.5
2006	96.95	4.5	97.67	5.8	57.44	7.9	68.35	15.9	91.05	11.4

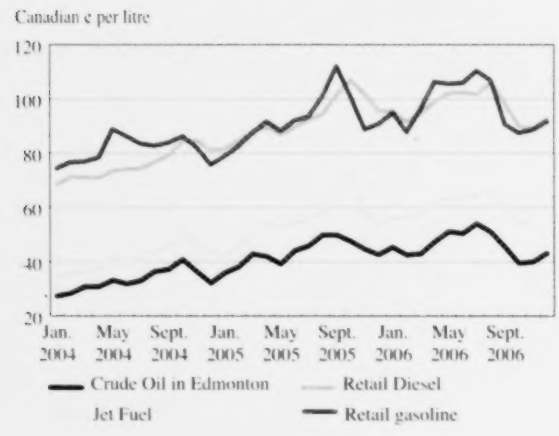
Source: Adapted from M.J. Ervin & Associates, the U.S. Department of Energy and Transport Canada's databases

Figure 2.8 shows the evolution of retail gasoline and diesel prices in Canada, as well as the price of kerosene-based jet fuel to end-users (net of all taxes) converted to Canadian cents per litre, as compared with the price of domestic crude oil in Edmonton. It indicates that the price of transportation fuels has followed a similar pattern to that of crude oil over the last three years. The only exception was the post-Katrina period in 2005 when the United States experienced a shortage of refined products due to the damages incurred at some refineries.

As Table 2.4 shows, the retail prices of road gasoline and diesel rose in 2006 by 5.8 and 4.5 per cent, respectively. This was much less than the respective increases of 13.5 and 22.2 per cent in 2005. The increase in the price of diesel for rail carriers was estimated at about eight per cent in 2006, based on the growth of the retail price of diesel with federal and provincial sales taxes removed.

The 2006 cost of fuel to airlines is estimated on the basis of the U.S. price to end-users as provided by the U.S. Department of Energy. Although the price increases are lower than in 2005, they are still substantial:

FIGURE 2-8: RETAIL FUEL PRICES COMPARED WITH DOMESTIC CRUDE PRICES, 2004 – 2006



Source: M.J. Ervin & Associates

15.9 per cent for jet fuel and 11.4 per cent for aviation gasoline (used only in piston-engine propeller-driven aircraft). These greater increases in the aviation sector are probably due to a vigorous demand for air travel, as described in other parts of this report, which leads to a strong demand for aviation fuels.

Table 2.5 demonstrates that increases in the price of fuel affect carriers' operating costs and the price of transportation services. In this table, the 2005 cost and revenue structures of key transportation industries have been used to estimate the impact of the fuel price increases on total operating costs of transportation services.

TABLE 2-5: FINANCIAL IMPACT OF INCREASES IN FUEL COSTS ON SELECTED TRANSPORTATION SECTORS, 2005 – 2006

(Millions of dollars)

	Trucking[1]	*CN & CPR*	*VIA Rail*	*Urban Transit*	*Airlines Levels I–III*
2005					
Fuel Costs	1,594	1,014	30	370	3,216
Fuel Costs as a % of Operating Expenses	6.4	15.8	7.0	7.7	24.3
Operating Revenues	26,148	8,673	261	2,615	13,982
Total Operating Expenses	24,941	6,440	430	4,784	13,252
Net Revenues	**1,208**	**2,233**	**(169)**	**(2,169)**	**730**
Increase in Fuel Costs	**72**	**80**	**2**	**17**	**511**
Percentage Increase in Fuel Costs	4.5	7.9	7.9	4.5	15.9
2006 (Estimated)					
Fuel Costs	1,666	1,094	33	387	3,726
Fuel Costs as a % of Operating Expenses	6.7	16.8	7.5	8.1	27.1
Operating Revenues	26,148	8,673	261	2,615	13,982
Total Operating Expenses	25,012	6,520	433	4,801	13,763
Net Revenues	**1,136**	**2,153**	**(172)**	**(2,186)**	**219**

Note: Totals may not add up due to rounding.
Table 2.5 shows that an increase in the price of fuels increases the operating expenses of a transportation industry, which in turn decreases its net revenues (assuming that operating revenues remain the same). This direct correlation between increased fuel costs and decreased revenues is made evident by subtracting 2006 net revenues from 2005 net revenues — the difference equals exactly the figures in the row "Increase in Fuel Costs."

1. Based on financial data for firms with $1 million or more in revenues.

Source: Estimated by Transport Canada based on Transport Canada's databases on fuel prices and on carriers' revenues and expenditures

- In 2005, fuel costs represented 6.4 per cent of trucking operating expenses (carriers with $1 million or more in revenues). A 4.5 per cent increase in fuel prices would increase operating costs by 0.29 per cent, thus decreasing net revenues from just over $1.2 billion to just over $1.1 billion.
- Fuel costs represented 15.8 per cent of operating expenses incurred by Canadian National and Canadian Pacific Railway. A 7.9 per cent increase in the price of diesel would increase their freight operating costs by 1.2 per cent and decrease net revenues by $80 million. For rail passenger services, the higher fuel costs would increase operating costs by 0.6 per cent and reduce net revenues by $3 million.
- Fuel costs represented 7.7 per cent of operating expenses of urban transit service providers in 2005. The estimated 4.5 per cent increase in the price of energy they faced in 2006 would increase their operating costs by 0.3 per cent and reduce revenues by $17 million.
- The air transport industry, an energy-intensive transportation sector, had fuel costs representing 24.3 per cent of the operating expenses for Class I–III carriers. Based on the price increases of jet fuel, this industry would have faced a 15.9 per cent increase in its fuel costs, translating into a 3.9 per cent increase in its total operating expenses in 2006 and a $511 million decrease in net revenues.

According to Statistics Canada,[9] total domestic energy consumption decreased by 0.4 per cent in 2005, from 7,673 to 7,638 petajoules. "One petajoule equals roughly the amount of energy required to operate the Montréal subway system for one year."[10]

In 2005, transportation represented 35 per cent of total energy consumption in the Canadian economy, which is slightly above the average ratio registered since 1997. Preliminary data indicate that total energy use by the transportation sector increased by 2.6 per cent in 2005, explaining this increase in the relative importance of the sector.

Consumption of gasoline for road use fell by 0.5 per cent; on the other hand, consumption of road diesel increased by 5.2 per cent for a net increase of 1.2 per cent in road energy consumption.[11] After declines in 2003 and 2004, energy use by the pipeline industry rebounded by 18.6 per cent in 2005, no doubt fueled by the increased demand for Canadian petroleum products on the U.S. markets following the shortages caused by hurricane Katrina.

Fuel consumption increased by 5.1 per cent in the rail industry and by 3.9 per cent in the aviation sector. The marine industry was the only sector — apart from road gasoline sales — to incur a decline in energy use (2.6 per cent). See Addendum tables A2-49 to A2-56 for more on transportation energy consumption.

PRODUCTIVITY AND PRICE PERFORMANCE OF TRANSPORT

In 2005, total factor productivity increased by 2.6 per cent in the rail freight industry (Class I) and by 7.9 per cent in the air industry. Gains in rail resulted primarily from productivity from other materials and services (the residual of labour, fuel and capital), while gains in the air industry were spread among a number of factors. Total factor productivity was up by 2.1 per cent for VIA Rail but down by 4.3 per cent for public transit. Results were not available for the trucking issue due to data issues.

Fuel unit costs (costs per unit of output) increased by 34.4 per cent for the rail freight industry. While fuel consumption was up slightly, the increase in unit costs was due almost entirely to a large increase in fuel prices and the suspension of hedging fuel purchases by the rail carriers. Fuel unit costs also increased in the air industry, by 23.2 per cent. VIA Rail and public transit carriers were also affected by fuel costs, as their fuel unit costs increased by 21 per cent and 17.5 per cent, respectively.

Transport prices were up in many of the industries in 2005. Rail freight prices were up 9.8 per cent, due largely to the inclusion of fuel surcharges. Airline prices increased by 3.6 per cent, while VIA Rail prices were up by 1.7 per cent. Public transit prices increased by 3.5 per cent during the year. Despite the price increases, output (generally measured in terms of passenger-kilometres or tonne-kilometres) also increased in 2005. Output increased by 4.8 per cent in the rail freight industry, 8.2 per cent in the air industry, 4.1 per cent for VIA Rail and 3.6 per cent for public transit. For more information, see tables A2-57 to A2-65 in the Addendum.

9 Statistics Canada, *The Daily / Le Quotidien*, March 16, 2007.

10 Idem, page 1.

11 See the Addendum to this report for more details.

IMPORTANCE OF TRANSPORTATION TO THE CANADIAN ECONOMY

VALUE-ADDED OUTPUT OF COMMERCIAL TRANSPORTATION

Value-added estimates[12] of output are available for transportation services that are offered on a commercial or for-hire basis. Such estimates do not include transportation services that are operated by a company for its own use, such as private trucking.

Table 2-6 shows the contribution of the different modes to Canada's GDP in 2006.

In 2006, commercial transportation industries in Canada accounted for $45.8 billion in 1997 dollars, or 4.3 per cent of the value-added GDP, unchanged from 2004. Trucking was the most important industry, making up $15.1 billion, or 1.4 per cent of the total GDP. Air and rail accounted for $4.7 billion, or 0.4 per cent, and $6.0 billion, or 0.6 per cent, respectively. Urban transit accounted for $3.2 billion, or 0.3 per cent of GDP.

TABLE 2-6: COMMERCIAL TRANSPORTATION AS A PROPORTION OF GDP,[1] 2006

	Millions of constant 1997 dollars	*Per cent of GDP*
Industries		
Air	4,713	0.4
Rail	6,046	0.6
Water	1,501	0.1
Truck	15,050	1.4
Urban transit systems	3,198	0.3
Interurban and rural bus	192	0.0
Miscellaneous ground passenger transportation	1,978	0.2
Other transportation[2]	13,096	1.2
Transportation industries	45,774	4.3

1 Gross Domestic Product at Basic Prices.
2 Includes scenic and sightseeing, postal and courier services as well as support activities for other modes of transportation such as baggage handling, pilotage, harbour operation and rail car loading and unloading.

Source: Statistics Canada Cansim Table 379-0019

TRANSPORTATION-RELATED DEMAND

Table 2-7 shows transportation-related demand as a proportion of GDP.

The total of all transportation expenditures for the final demand of goods accounted for 12.1 per cent of expenditures in Canada's economy in 2006. Personal expenditures on transportation represented the largest part of transportation-related demand and accounted for 8.4 per cent of GDP. In 2006, these expenditures grew by 5.3 per cent. Transportation equipment purchases, mostly motor vehicles, made up 3.6 per cent of the GDP, while other motor vehicle expenses, including maintenance and repair, fuel and licences, made up another 3.7 per cent. Personal expenditures on commercial transportation made up 1.0 per cent of total GDP. For a more detailed breakdown of personal expenditures for transportation, see Table A2-65 in the Addendum.

In 2006, investment in transportation made up 2.9 per cent of the GDP. The largest part of this was business investment in transportation, which accounted for 2.2 per cent of GDP. Business transportation investment rose by 8.8 per cent as business investment in transportation equipment inventories rose by 140.3 per cent. Government investment is dominated by expenditures on roads. This accounts for 91 per cent of government investment spending on transportation and 0.6 per cent of the GDP. For more detailed information on government transportation spending, see Chapter 3 of this report.

Transportation exports and imports were dominated by automotive trade. In 2006, exports of automotive equipment, including parts, were equivalent to 6.6 per cent of the GDP, while imports were equivalent to 6.9 per cent. Automotive exports fell by 6.0 per cent, while automotive imports rose 1.8 per cent.

Transportation-related domestic demand made up 12.2 per cent of final domestic demand in 2006.

12 A value-added measure of output is referred to as net output and is equivalent to gross output or total sales net of goods and services purchased by a firm as intermediate inputs and includes only primary inputs such as labour.

TABLE 2-7: TRANSPORTATION DEMAND AS A PROPORTION OF GDP, 2006

	Millions of dollars 2006	*Per cent of GDP 2006*	*Per cent annual growth rate 2005 – 2006*	*Per cent annual growth rate 2000 – 2005*
Personal Expenditures on Transportation	**121,076**	**8.4**	**5.3**	**4.3**
New and Used Transportation Equipment	51,239	3.6	3.8	2.7
Repair and Maintenance Expenditures	16,546	1.1	5.9	5.9
Transportation Fuels and Lubricants	29,301	2.0	6.0	6.4
Other Motor Vehicle Related Services	9,242	0.6	6.1	7.8
Purchased Commercial Transportation	14,748	1.0	8.6	2.2
Investment in Transportation	**41,439**	**2.9**	**9.3**	**N/A**
Business Investment in Transportation	32,052	2.2	8.8	N/A
Transportation Infrastructure (roads and railways)	2,347	0.2	5.4	1.8
Transportation Equipment	27,708	1.9	4.9	3.1
Inventories	1,997	0.1	140.3	N/A
Government Investment in Transportation	9,387	0.7	11.0	8.0
Transportation Infrastructure (roads)	8,512	0.6	12.0	8.3
Transportation Equipment	875	0.1	2.9	5.8
Government Spending on Transportation[1]	**15,745**	**1.1**	**(5.9)**	**5.5**
Road Maintenance	9,851	0.7	(9.2)	4.1
Urban Transit Subsidies	3,312	0.2	0.0	7.2
Other Spending	2,581	0.2	(0.6)	9.3
Exports	**95,073**	**6.6**	**(4.7)**	**(1.8)**
Automotive Products	82,894	5.8	(6.0)	(2.1)
Commercial Transportation	12,179	0.8	4.7	0.8
Imports	**98,976**	**6.9**	**3.2**	**1.0**
Automotive Products	79,786	5.5	1.8	0.2
Commercial Transportation	19,190	1.3	9.5	4.7
Total Transport-Related Final Demand	**174,357**	**12.1**	**0.5**	**N/A**
Gross Domestic Product at Market Prices	**1,439,291**	**100.0**	**4.9**	**5.0**
Transportation-related domestic demand	176,263	12.2	4.5	N/A
Final Domestic Demand	**1,393,590**	**96.8**	**6.5**	**5.5**

Note: N/A = Not available.
1 2005 figures; growth rates over previous year are growth rates over 2004.

Source: Statistics Canada National Income and Expenditure Accounts, Transport Canada

PROVINCIAL AND TERRITORIAL TRANSPORTATION SPENDING

COMMERCIAL TRANSPORTATION

Table 2-8 shows the importance of provincial and territorial commercial transportation[13] to the Canadian total in 2005. Most of the commercial transportation activity took place in Ontario and Quebec, which together account for 54 per cent of the total commercial transportation measured in the GDP. Alberta and British Columbia together accounted for another 32 per cent. Alberta's percentage of the national total has grown at the expense of Quebec, Ontario and British Columbia.

TABLE 2-8: COMMERCIAL TRANSPORTATION AS A PER CENT OF GDP BY PROVINCE AND TERRITORY, 2005

	Millions of dollars	*Per cent of total Canadian*	*Per cent of total provincial/ territorial*
Newfoundland and Labrador[1]	530.3	1.0	3.2
Prince Edward Island[1]	92.6	0.2	2.7
Nova Scotia[1,2]	1,059.9	2.1	4.1
New Brunswick[1,2]	1,072.6	2.1	5.3
Quebec	9,802.7	19.2	4.2
Ontario	17,940.6	35.1	3.9
Manitoba[1]	2,315.6	4.5	6.7
Saskatchewan	2,188.0	4.3	6.3
Alberta	8,127.4	15.9	5.0
British Columbia	8,450.3	16.5	6.3
Territories[1,2]	242.4	0.5	4.2

Note: GDP at basic prices.
1 Includes warehousing.
2 Includes pipeline.

Source: Statistics Canada Cansim Table 379-0025

PERSONAL TRANSPORTATION

In 2005, Canadians spent $114.9 billion on personal transportation. Ontario residents spent 39 per cent of this total, Quebec residents 23 per cent, British Columbia residents 13 per cent, and Alberta residents 11 per cent.

Alberta residents spent an average of $4,291.5 on transportation per capita, the most of any province or territory. Nunavut residents spent the least, only $1,340. Of the other provinces and territories, only Yukon residents spent more than the national average of $3,562.

On average, Canadians spent 15.1 per cent of total personal expenditures on transportation in 2005. New Brunswick, Quebec, Alberta and Yukon residents spent more than 15 per cent of their total personal spending on transportation.

13 Due to the unavailability of constant dollar estimates of provincial GDP by industry, only current dollar estimates of transportation are available. The latest year for which they are available is 2003. Due to confidentiality reasons, it is not possible to obtain estimates that do not include warehousing and/or pipelines for 2003. On a national level the pipeline and warehousing industries represented 10.7 and 3.2 per cent of the output of transportation and warehousing sector in 2003.

Personal expenditures on transportation represented 8.8 per cent of final domestic demand in Canada in 2005. It was higher in New Brunswick, Quebec and Ontario but only 6.2 per cent in the Yukon, 3.6 per cent in the Northwest Territories and 2.1 per cent in Nunavut.

Table 2-9 shows personal expenditures on transportation by province and territory in 2005. Addendum Table A2-66 shows personal expenditures on transportation by product type.

TABLE 2-9: PERSONAL EXPENDITURES ON TRANSPORTATION BY PROVINCE AND TERRITORY, 2005

	Millions of dollars	*Per capita dollars*	*Per cent of total provincial/ territorial personal expenditures*	*Per cent of total Canadian personal transportation expenditures*	*Per cent of provincial/ territorial final domestic demand*
Newfoundland and Labrador	1,525	2,955	14.8	1.3	7.7
Prince Edward Island	423	3,062	14.7	0.4	8.3
Nova Scotia	3,057	3,259	14.7	2.7	8.4
New Brunswick	2,442	3,247	15.8	2.2	9.0
Quebec	26,577	3,498	16.1	23.4	9.5
Ontario	44,568	3,554	14.6	38.8	8.9
Manitoba	3,650	3,100	14.2	3.2	8.4
Saskatchewan	3,054	3,072	13.9	2.7	7.9
Alberta	13,977	4,291	16.1	11.4	7.9
British Columbia	14,620	3,436	14.0	12.9	8.5
Yukon	130	4,182	15.1	0.11	6.2
Northwest Territories	145	3,374	12.0	0.13	3.6
Nunavut	40	1,340	7.9	0.03	2.1
Canada	**114,939**	**3,562**	**15.1**	**100.0**	**8.8**

Source: Statistics Canada

GOVERNMENT SPENDING ON TRANSPORTATION 3

Transportation expenditures by all levels of government were more than $24 billion in fiscal year 2005/06.

This chapter summarizes all transportation expenditures and revenues by level of government and gives an overview of the financial implications of public sector involvement in transportation. A synopsis of federal and provincial revenues from transportation users is followed by a detailed breakdown of expenditures by level of government. Finally, the chapter presents consolidated expenditures broken down by mode.

GOVERNMENT TRANSPORTATION EXPENDITURES

Combined, all levels of government spent approximately $24.2 billion in 2005/06. This is an 11.4 per cent increase from 2004/05, or $2.5 billion. Table 3-1 shows government expenditures on transportation since 2002/03. Transportation spending by governments on a per capita basis also increased 10.3 per cent to $747. While all levels of government contributed to this growth, provincial/territorial governments had the largest increase in net spending at 21.2 per cent, or $2.0 billion. Local governments increased their net spending by 0.3 per cent, or $31.8 million. Federal transport expenditures increased by 15.0 per cent, or $442.1 million to $3.4 billion, and are expected to increase by 4.8 per cent in 2006/07, or $161.2 million. All government fees and tax revenues from transport users were up 0.5 per cent in 2005/06, totalling $15.7 billion. Federal non-tax revenues from transport users are expected to increase by 3.2 per cent in 2006/07 to $831 million, following an increase of 2.2 per cent in 2005/06. Addendum Table A3-1 shows gross and net expenditures on transportation by governments from 1996/97 to 2005/06.

Figure 3-1 shows the trend in spending by level of government from 1996/97 to 2005/06. Up to 2000/01, total government expenditures averaged around $18 billion, but over the past five years have increased with increasing growth rates over the past three years. Other than a slight decline in 1998/99, net local expenditures rose every year over this period. Both net provincial/territorial and federal expenditures have had larger periods of declines. Net provincial/territorial expenditures reached $8.8 billion in 1999/2000 but then fell to $7.6 billion in 2000/01. Only in 2004/05 did they surpass the previous peak. The chart shows the strong growth (21.1 per cent) in net provincial/territorial expenditures in 2005/06. Federal expenditures fell from $3.5 billion in 1996/97 to $2.0 billion in 1999/2000 and 2000/01, after which they have risen steadily to reach 3.4 billion in 2005/06. Total revenues have also risen each year after hovering around $13.7 billion until 2001/02.

TABLE 3-1: GOVERNMENTS' GROSS AND NET EXPENDITURES ON TRANSPORTATION, 2002/03 – 2006/07

(Millions of dollars)

	2002/03	*2003/04*	*2004/05*	*2005/06*	*2006/07*[F]
Transport Canada expenses (Gross)[1]	1,352	1,382	1,431	1,516	1,419
Other federal expenses (Gross)	1,164	1,258	1,509	1,866	2,125
Provincial/Territorial[2]	8,074	8,502	9,459	11,461	N/A
Local[3]	8,531	9,138	9,322	9,354	N/A
Total gross transport expenditures	19,121	20,280	21,721	24,197	N/A
Gross expenditures per capita	608	639	677	747	N/A
Transport Canada revenues	423	334	363	408	415
Other federal revenues[4]	460	449	425	398	416
Specific tax revenues from transport users[5]	13,838	14,334	14,802	14,857	N/A

Notes: N/A = Not available. More yearly data are available on Transport Canada Web site (www.tc.gc.ca). Some figures from previous years have been modified and therefore do not match last year's report. Totals may not add up due to rounding.

1 Excludes transfers of $22 million to Crown corporations not involved in transport in 2002/03 and 2003/04.

2 Net of federal transfers as reported by the provinces.

3 Calendar year basis; net of federal and provincial transfers.

4 Revenues from Coast Guard services and small port users.

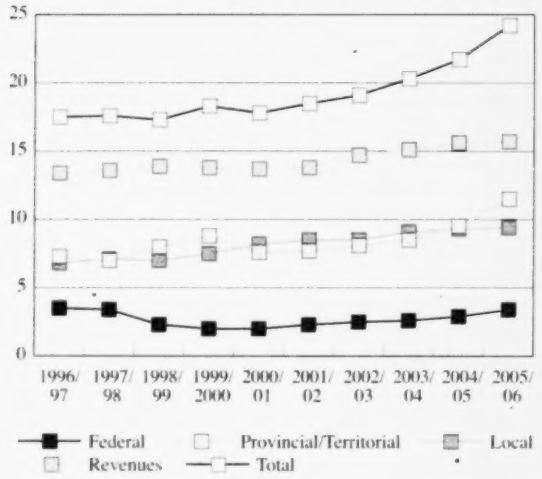
5 Federal excise fuel taxes, and provincial motive fuel taxes and licence fees.

F Forecast at January 31, 2007, of full year.

Source: Main Estimates of the Government of Canada; Transport Canada, Finance Directorate; The Canadian Transportation Agency; Internal reports from several agencies and federal departments; Provincial/Territorial Departments of Transportation; Statistics Canada, Public Institutions Division, unpublished data

FIGURE 3-1: GOVERNMENT EXPENDITURES AND REVENUES ON TRANSPORTATION, 1996/97 – 2004/05

(Billions of dollars)



Source: Main Estimates of the Government of Canada; Transport Canada, Finance Directorate; The Canadian Transportation Agency; Internal reports from several agencies and federal departments; Provincial/Territorial Departments of Transportation; Statistics Canada, Public Institutions Division, unpublished data.

Federal Expenses Related to Transport Facilities and Services

The Government of Canada provides modal safety, security and policy services. It also operates roads and bridges, airports, harbours/ports and marine navigational and rescue services (Coast Guard). Transport Canada performs several multimodal activities, ranging from security and emergency preparedness to regulating and monitoring the transport of dangerous goods. Total direct federal transport expenses in 2006/07 are forecast to rise by 4.6 per cent to $2.2 billion after remaining almost unchanged in 2005/06.

There are two main categories of government activity in transportation. The first is operations, the second safety, security and policy. After decreasing by $9 million, or 0.9 per cent, in 2005/06, expenses related to operations are expected to increase by $48.6 million, or 5.0 per cent, to $1,017 million in 2006/07. Expenditures on safety, security and policy are expected to increase by $33.6 million, or 3.5 per cent, to $990 million, resuming the steady increase after the pause in 2005/06. Major increases in recent years are related to commitments to security in the marine and air sectors, particularly by the Canadian Air Transport Security Authority.

Table 3-2 shows federal expenditures on transportation from 2002/03 to 2006/07. Table A3-2 in the Addendum shows expenditures by the federal government from 1996/97 to 2005/06.

TABLE 3-2: FEDERAL OPERATING, MAINTENANCE AND CAPITAL EXPENDITURES, 2002/03 – 2006/07

(Millions of dollars)

	2002/03	*2003/04*	*2004/05*	*2005/06*	*2006/07*[F]
Operations	**934**	**924**	**978**	**969**	**1,017**
Airports	56	75	59	45	55
Aircraft services	57	62	65	68	75
Coast Guard	498	505	543	551	566
Ports and harbours[1]	118	126	137	117	129
Roads and bridges[2]	193	147	163	179	184
Research and development	13	10	10	9	8
Safety, Security and Policy	**686**	**791**	**958**	**957**	**990**
Canadian Air Transport Security Authority	259	351	489	425	441
Air Safety and Policy[3]	169	190	173	175	185
Marine Safety and Policy[4]	59	57	105	136	133
Road and Rail Safety and Policy	53	48	48	50	57
Multimodal Policy and Safety[5]	146	145	143	167	165
Corporate Services of Transport Canada	**131**	**119**	**121**	**142**	**155**
Total	**1,750**	**1,834**	**2,057**	**2,068**	**2,163**

Note: More detailed data are available on Transport Canada's Web site (www.tc.gc.ca).

1 Includes expenses for small fishing ports by Fisheries and Oceans Canada.

2 Includes contributions by Transport Canada to the Champlain and Jacques Cartier Bridges, and expenses of the National Capital Commission, Public Works and Government Services Canada, Parks Canada and Indian and Northern Affairs Canada.

3 Includes expenses of the Civil Aviation Tribunal.

4 Includes statutory payments to St. Lawrence Management Corporation for Capital Cash Fund Requirements of $17.5 million in 2004/05, $28.0 million in 2005/06 and $20 million in 2006/07.

5 Includes expenses for the regulation and inspection of the transport of dangerous goods, Security and Emergency Preparedness, the Canadian Transportation Agency, and other multimodal safety, policy and analysis.

F Forecast January 31, 2007 of full year.

Source: Transport Canada

Federal Subsidies to Transportation

Total federal direct subsidies, grants and contributions are projected to be $1,380 million in 2006/07, an increase of $66 million, or 5.0 per cent. This is much less than the 49 per cent increase in 2005/06. Subsidies to the air mode are expected to be $46.5 million, up 14.6 per cent. Marine subsidies are forecast to drop $84.9 million, or 37.7 per cent, to $140.5 million. This drop reflects a reduction in planned payments under the Port Divestiture Fund of almost $60 million and the absence of the one-time payment in 2005/06 of $35 million to the Toronto Port Authority for a litigation settlement. Subsidies to the rail mode decreased by $29.0 million, or 13.2 per cent, to $190.7 million. While payments to VIA Rail are expected to remain constant, other categories of rail expenditures are expected to fall. Highway mode subsidies are expected to rise to $964.1 million, an increase of $262.8 million, or 37.5 per cent, in 2006/07, the second year of similar sized increase. Highway agreement payments are scheduled to drop $73.6 million, the second decrease in a row. Payments by Infrastructure Canada for highways are forecast to increase by $347.9 million,

following an increase of $306.1 million in 2005/06. Subsidies for transit systems are forecast to total $18.4 million in 2006/07, down from $116.1 million. Table 3-3 gives more details on these subsidies. Table A3-3 in the Addendum gives the same information over a greater time series.

TABLE 3-3: DIRECT FEDERAL SUBSIDIES, GRANTS AND CONTRIBUTIONS BY MODE, 2002/03 – 2006/07

(Millions of dollars)

	2002/03	*2003/04*	*2004/05*	*2005/06*	*2006/07*[e]
Air Mode					
Airport (Operation & Capital)	35.3	38.4	30.6	40.6	46.5
Airport/airline assistance[1]	25.4	4.5	-	-	-
Other	4.7	2.7	9.8	1.7	1.2
Total Air	65.4	45.5	40.3	42.2	47.7
Marine Mode					
Marine Atlantic	46.4	41.6	72.9	70.2	85.0
Transfers to ports[2]	22.1	65.7	27.1	61.7	2.3
Other ferry and coastal services	32.2	32.0	33.6	34.2	36.9
Marine security				17.4	15.0
Other[3]	7.4	8.3	6.8	41.8	1.3
Total Marine	108.0	147.6	140.3	225.4	140.5
Rail Mode					
VIA Rail	255.7	264.2	191.3	169.0	169.0
Hopper cars	16.0	12.9	12.3	12.0	1.1
Grade Crossings	7.5	7.5	7.4	11.2	3.8
Other	8.6	9.2	20.8	27.5	16.8
Total Rail	287.8	293.8	231.9	219.7	190.7
Highway Modes					
Transition programs[4]	37.2	33.7	33.6	31.7	10.5
Highway agreements[5]	101.4	116.2	205.2	157.1	83.5
Infrastructure program	33.7	45.9	132.1	438.3	786.1
Fixed link in Prince Edward Island	49.2	51.4	52.0	53.0	53.3
Other[6]	13.2	15.8	10.3	21.2	30.7
Total Highway Modes	234.8	262.5	434.7	701.4	964.1
Transit Systems[7]	**66.3**	**53.5**	**28.6**	**116.1**	**18.4**
Grand Total[8]	**763.6**	**805.5**	**883.2**	**1,314.5**	**1,380.1**

Notes: More detailed data are available on Transport Canada's Web site (www.tc.gc.ca). Transport-related expenditures by regional development agencies have been added retroactively.

1 Includes a cabin security enhancement program of $28 million and $6 million in 2002/03 and 2003/04, respectively.
2 Includes contributions to the Port Divestiture Fund and $64 million for the payment of a loan guarantee to Ridley Terminals in 2003/04.
3 Includes a payment of $35 million to the Toronto Port Authority in 2005/06 for the settlement of civil litigation.
4 Offset federal programs to the elimination of *Western Grain Transportation Act* programs.
5 Includes $33 million in 2002/03 and $78 million in 2003/04 under the Strategic Highways Infrastructure Program.
6 Includes in 2002/03 and 2003/04 the estimated road portion of the Toronto Waterfront Revitalization Project.
7 Spending included previously under Highway Modes.
8 Includes small amounts not classified elsewhere.
e Forecast at January 31, 2007, of full year.

Source: Transport Canada; Fisheries and Oceans Canada; Provincial/Territorial Departments of Transportation

Distribution of Provincial/Territorial and Local Expenditure by Jurisdiction

Provincial/territorial and local governments spent $20.8 billion on transportation net of transfers from the federal government in 2005/06, up 10.8 per cent from 2004/05. While spending by these two levels of government was of a similar magnitude in 2004/05, provincial/territorial governments spent about $2 billion more than local governments in 2005/06. Net expenditures by provinces/territories increased by $2.0 billion (21.1 per cent) to $11.5 billion, while local net expenditures rose by $31.8 million (0.3 per cent) to $9.3 billion.

Local governments accounted for 45 per cent of total provincial/territorial and local government expenditures, down from the average of 51 per cent for the previous five years.

In terms of net expenditures on transportation, the provincial and local governments in Ontario spent the most in 2005/06, at 6.9 billion, or one third of the national total. Quebec spent the next most, at $4.9 billion (23.6 per cent), followed by British Columbia at $3.3 billion (15.8 per cent) and Alberta at $2.8 billion (13.2 per cent).

On a per capita basis, the territories spent the most in 2005/06: the Northwest Territories at $3,966 per person, Yukon with $2,814 per person and Nunavut at $1,583 per person. Provincially, Alberta and British Columbia spent the most, at $833 and $768 per person, respectively. The average for all jurisdictions was $643 per person. Addendum tables A3-5 and A3-6 give further details.

Over past five years, 2001/2002 to 2005/06, provincial/territorial and local governments have spent an average of 5.7 per cent more per year on transportation. All the territories as well as New Brunswick and Quebec have average increases of more than seven per cent.

Federal transfers in 2005/06 accounted for 1.9 per cent of transport spending by local and provincial/territorial governments. Federal transfers were most important for the Northwest Territories and Saskatchewan, where it was equivalent to at least 10 per cent of transport spending.

Spending on highways and roads is the most important category of transport-related expenditures for all provinces/territories. In 2005/06, it accounted for about 80 per cent of total net spending by provincial/territorial and local governments. It has remained about this

percentage for the past five years. Nationally, provincial and local spending in this category accounted for about 38 and 42 per cent, respectively.

Other modes are significant for different provinces/territories. In Newfoundland and Labrador, marine transportation is important, making up 10 per cent of total provincial and local government net transport spending in 2005/06. In the Northwest Territories, spending on air transportation accounted for 23 per cent of transport spending. In the most populous provinces, expenditures on transit are important, accounting for 20.0 per cent in Ontario, 17.3 per cent in British Columbia, 15.0 per cent in Quebec and 12.9 per cent in Alberta in 2005/06. In the other jurisdictions, transit expenditures only accounted for an average of 5.0 per cent of transport spending.

TABLE 3-4: GOVERNMENT REVENUES FROM TRANSPORT USERS, 2002/03 – 2006/07

(Millions of dollars)

	2002/03	2003/04	2004/05	2005/06	2006/07[p]
Airport revenues	319	226	253	299	312
Aircraft services	26	23	31	31	34
Air Travellers Security Charge	421	410	383	353	365
Marine revenues[1]	68	72	74	78	83
Leases of hopper cars[2]	15	19	16	16	15
Other fees and recoveries[3]	33	34	30	29	23
Total	883	783	788	806	831
Federal fuel taxes	4,758	4,873	5,081	5,023	N/A
Public and non-transport use[4,5]	383	400	402	413	N/A
Road[5]	4,163	4,254	4,450	4,370	N/A
Other modes[5]	212	219	229	240	N/A
Provincial/territorial fuel taxes	7,347	7,700	7,981	8,163	N/A
Sales tax equivalent[5,6]	795	863	962	1,091	N/A
Road[5]	6,292	6,604	6,755	6,797	N/A
Other modes[5]	261	233	264	275	N/A
Provincial/territorial licences/fees[7]	2,911	3,024	3,104	3,175	N/A
Total tax revenues from transport users	13,838	14,334	14,802	14,857	N/A
Total tax and fee revenues from transport users	14,721	15,117	15,590	15,663	N/A

Notes: N/A = Not available. More yearly data are available on Transport Canada's Web site (www.tc.gc.ca).

1 Includes Coast Guard user fees and sales of marine assets credited to the Consolidated Revenue Fund.

2 Credited to the Consolidated Revenue Fund.

3 Includes air safety fees, other licensing and administrative fees, inter- and intra-departmental transfers for services and various regulatory fees credited to either Transport Canada or the Consolidated Revenue Fund.

4 Estimated fuel taxes from public administrations and mobile users of the public transport system.

5 Estimates by Transport Canada (revised).

6 Estimates based on the sales tax that would have applied to provincial fuel prices.

7 The amounts shown exclude licences and registration fees dedicated to the Société de l'Assurance Automobile du Québec.

p Forecast at January 31, 2007, of full year.

Sources: Transport Canada, Fisheries and Oceans Canada, Statistics Canada, provincial/territorial departments of transportation.

TOTAL TRANSPORTATION REVENUES BY LEVEL OF GOVERNMENT

The federal government generates revenues from the use of transportation facilities and services. The following analysis includes revenues from cost-recovery initiatives credited to the budgets of federal departments and from other sources credited to the federal government's Consolidated Revenue Fund. Revenues collected from transport users include excise fuel taxes collected by the federal and provincial governments, as well as provincial licence and other fees. Table 3-4 highlights government revenues from transport users from 2002/03 to 2006/07. Table A3-4 in the Addendum gives the same information over a greater time series.

In 2005/06, the most recent year for which budget information is available for all government levels, federal and provincial/territorial governments collected $15.7 billion from transport users through fuel taxes and permit and licence fees. This was a 0.5 per cent increase from the previous year.

At $11.2 billion in 2005/06, road fuel taxes are the most important component of government tax revenues from transportation. This was a 0.3 per cent decrease from 2004/05. Other fuel tax revenues rose $22 million in 2005/06 to $515 million. Total fuel taxes made up 75 per cent of total revenues by transport users.

In 2006/07, federal government transportation revenues other than fuel taxes are expected to be $831 million, up from $806 million in 2004/05. The main factors behind this increase are higher airport lease payments. Table 3-4 also shows other federal revenues not credited to transport, such as revenues from the leases of hopper cars or the sale of port assets.

Provincial revenues from licences and fees are expected to be $3.2 billion, a 2.3 per cent increase.

OVERVIEW OF EXPENDITURES AND REVENUES BY MODE

The following summarizes consolidated federal expenses, as well as expenditures by provincial/territorial and local governments, netted of transfers received from other levels of government from 2002/2003 to 2006/07. Table 3-5 shows transport expenditures and revenues by mode and level of government for this period. See Addendum Table A3-5 for the same information over a greater time series.

In 2005/06, total government spending on roads rose 11.9 per cent to $17.4 billion, following a 7.9 per cent increase in 2004/05. Road spending accounts for 72 per cent of overall spending on transportation. Road expenditures have risen steadily at an average annual rate of 5.8 per cent for the past five years. Revenues from road users were $14.3 billion in 2005/06 for net expenditures of $3.1 billion.

Public funding for transit systems was $3.3 billion in 2005/06, up $445 million, or 15.5 per cent, and accounted for 13.7 per cent of all government expenditures on transportation.

In 2005/06, the air mode accounted for $847 million, a drop of $68 million, or 7.4 per cent. Air mode expenditures made up 3.5 per cent of gross government spending on transportation. In the last five years, air-related public spending has increased at an average annual rate of 14 per cent, reflecting the new initiatives related to safety and security.

In 2005/06, public spending related to the marine mode increased 10.4 per cent to $1.3 billion. Public spending on marine transportation makes up about five per cent of total government spending.

Also in 2005/06, public spending on rail transportation fell seven per cent to $274 million, the second consecutive yearly drop. Public spending on rail transportation now makes up only 1.1 per cent of total government spending.

The federal and provincial governments spent $2.4 billion on the air, marine and rail modes combined in 2005/06, while taking in $1.3 billion in fees and tax revenues from transport users in these modes.

The category "Other/Overhead" in Table 3-5 includes overhead expenses by all levels of government and expenditures related to multimodal activities. This category accounts for about four per cent of government transportation spending. Tables A3-6 and A3-7 in the Addendum detail government spending on transportation by province, and by mode and province, respectively.

TABLE 3-5: TRANSPORT EXPENDITURE/REVENUES BY MODE AND LEVEL OF GOVERNMENT, 2002/03 – 2006/07

(Millions of dollars)

	2002/03	*2003/04*	*2004/05*	*2005/06*	*2006/07*[F]
Federal Operating and Maintenance, Capital and Subsidies[1]					
Air	607	724	827	755	805
Marine	783	835	925	1,029	967
Rail	313	315	256	244	215
Road	456	436	622	906	1,180
Transit	66	53	29	116	18
Other/Overhead	290	276	281	332	357
Subtotal	2,516	2,640	2,940	3,382	3,543
Provinces/Territorial/Local[2]					
Air	78	80	89	92	N/A
Marine	205	240	258	276	N/A
Rail	30	31	37	30	N/A
Road	13,316	14,022	14,976	16,549	N/A
Transit	2,462	2,722	2,838	3,196	N/A
Other/Overhead	513	546	583	672	N/A
Subtotal	16,605	17,640	18,781	20,815	N/A
Total Expenses: All Government Levels					
Air	685	804	915	847	N/A
Marine	988	1,075	1,183	1,305	N/A
Rail	343	347	293	274	N/A
Road	13,773	14,457	15,598	17,454	N/A
Transit	2,529	2,775	2,867	3,312	N/A
Other/Overhead	803	822	864	1,004	N/A
Subtotal	19,121	20,280	21,721	24,197	N/A
Government Revenues From Transport Users[3]					
Road Users	13,365	13,884	14,311	14,345	N/A
Rail, Air and Marine	1,346	1,220	1,271	1,314	N/A
Multimodal	10	12	7	4	N/A
Total	14,721	15,117	15,590	15,663	N/A

Note: N/A = Not available. More details are available on Transport Canada's Web site (www.tc.gc.ca).

1 From tables 3-2 and 3-3.

2 Transport Canada; provincial/territorial departments of transportation. Many provinces have moved to unconditional grants to local governments, transportation transfers may therefore be underreported. Net expenses by local governments are netted against transfers reported by provincial governments. Statistics Canada, Public Institutions Division, data are on a calendar year basis.

3 From Table 3-4.

F Forecast at January 31, 2007, of full year.

Source: Transport Canada; Fisheries and Oceans Canada; provincial/territorial departments of transportation

TRANSPORTATION SAFETY AND SECURITY

4

Canadians' confidence in transportation security in all modes continued to increase.
There were fewer fatalities in the aviation, marine and rail transportation modes; however, there was an increase in fatalities in the road transportation mode.
The number of reported accidents decreased in the aviation, marine and rail transportation modes and increased for the road transportation mode.

Transport Canada promotes the safety and security of Canada's transportation system. This system is made up of the air, marine, rail and road modes and includes the transportation of dangerous goods. A safe and secure transportation system reduces the likelihood of transportation occurrences that result in the loss or damage to life, health and property. It also enables the efficient flow of people and goods, protects the environment from pollution that can result from occurrences, and is an essential contributor to the health, quality of life and prosperity of all Canadians.

Transport Canada supports this safety and security objective through policy development, rule making, monitoring and enforcement, and outreach activities. It establishes and implements legislation, regulations, standards and policies for all modes of transportation. The department's monitoring and enforcement activities include issuing licences, certificates, registrations and permits; monitoring compliance through audits, inspections and surveillance; and responding appropriately in cases of non-compliance. In particular, the department's inspectors monitor the system to ensure the rules and policies are being followed and, if they have to, enforce them. Transport Canada strives to make transportation system users and industry aware of the requirements and it actively promotes, educates and increases awareness of safety and security issues.

Responsibility for the safety and security of the transportation system is shared by many different stakeholders. Transport Canada collaborates with other federal departments and agencies whose programs and services may be affected by transportation activities. For example, to promote aviation security, the department works with the Canadian Air Transport Security Authority (CATSA), which is responsible for delivering air transport security screening services in accordance with Transport Canada regulations and standards.

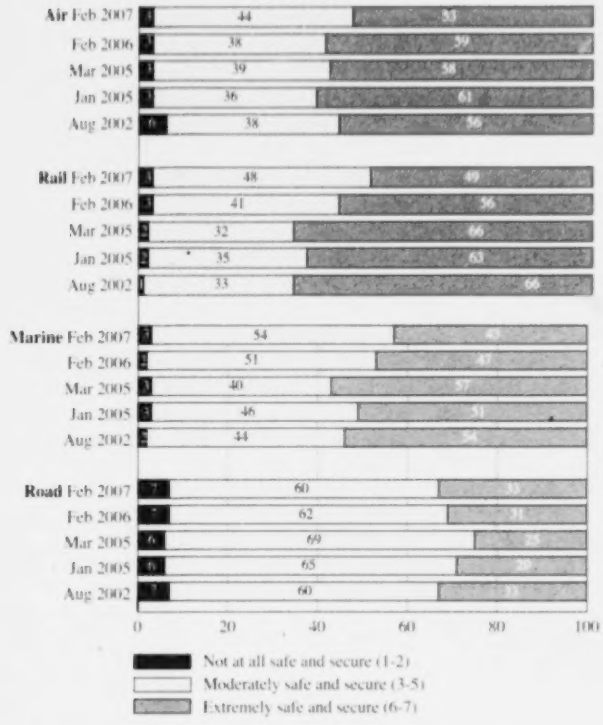
Transport Canada also works with provincial, territorial and municipal governments particularly in maintaining the highway system, promoting and enforcing road safety, and co-delivering the Transportation of Dangerous Goods (TDG) program. The department works closely with transportation sector industries, agencies and associations, all of which have a vested interest in transportation infrastructure, the regulatory regime and transportation safety and security.

In addition, Transport Canada works internationally to promote Canada's views and values on safety, security and environmental protection, to harmonize safety and security standards, and to share best practices in safety and security systems. For example, Transport Canada collaborates with other countries, such as the United States and Mexico, and with other international partners, such as the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) in these endeavours.

Canada's transportation system is already one of the safest and most secure in the world. Even so, the country continues to work diligently to further improve the system. Transport Canada measures public confidence in the safety and security of each transportation mode. The data reveal that, in the case of all four transportation modes, at least 96 per cent of those Canadians who have an opinion rate them as either *moderately* or *extremely* safe and secure. Figure 4-1 shows the most recently available ratings (March 2006).

FIGURE 4-1: PUBLIC' S CONFIDENCE RATING OF THE SAFETY AND SECURITY OF AIR, RAIL, MARINE AND ROAD TRAVEL

"Canada's transportation system includes air, rail, road, and marine travel... How would you rate the overall SAFETY AND SECURITY of each of the following modes of transportation?"



Source: Perceptions of Air Travel Safety and Security in Canada: Wave IV, EKOS Research Associates (February 2007).

A measure of transportation safety is the number of occurrences that result in an accident. In 2006, there were fewer accidents in the aviation, marine and rail modes of transportation and about the same number in the road mode (2005). There were fewer accidents involving the transportation of dangerous goods. Compared with last year and the five-year average, there were fewer fatalities in aviation, marine and rail but more fatalities in road transportation (2005). There was one fatality caused by dangerous goods that involved the transportation of dangerous goods, consistent with the five-year average. With the exception of a few fluctuations in rail, the safety performance record in the three other transportation modes has contributed to a long-term downward trend in accidents reported over the past 10 years.

One of Transport Canada's key evolving strategic directions to further improve transportation safety and security over the long term is the implementation of the Safety and Security Management Systems (SMS/SeMS). The SMS/SeMS are formal frameworks designed to integrate safety and security performance into the daily operations of a transportation enterprise. The rail mode is well on its way to implementing SMS regulations, while the marine mode is moving toward increased adoption for operators of Canadian domestic vessels. New SMS regulations for aviation came into effect in June 2005.

In terms of enhancing transportation security, in 2006, Transport Canada continued a number of activities, including legislative and regulatory enhancements, programs and international initiatives. Transport Canada also actively contributed to such federal government initiatives as the National Security Policy and the Security and Prosperity Partnership.

Canadians are confident in the security of air travel. This confidence continued to increase in 2006. For example, one half (49 per cent) of those surveyed reported having high confidence in the security of air travel. This confidence has been growing since 2002, when only slightly more than one third (36 per cent) expressed confidence. This is an increase in confidence of 13 percentage points over the last three years. Canadians also believe that there are sufficient security procedures in place to protect them. Even if they do not feel immune to the activities of terrorists, they do nevertheless feel confident in the effectiveness of the security measures that have been implemented.

The rest of this chapter reviews developments and initiatives concerning the safety and security of Canada's transportation system during 2006. First, it reviews the 2006 safety records by mode and then discusses and reviews transportation security and the related enhancements undertaken in 2006.

TRANSPORTATION SAFETY

This section reports the most recent safety-related statistics for all federally regulated modes of transportation and for the transportation of dangerous goods. One of the principal sources of safety-related occurrence statistics are the reports of accidents and incidents made to the Transportation Safety Board of Canada (TSB). Accidents are those occurrences that have resulted in the loss of or damage to life, health and property. Incidents, on the other hand, are those occurrences that have the potential to result in an accident. It is important to note that the specific definitions of a reportable TSB accident and incident vary according to the transportation mode. (See the TSB Regulations at www.tsb.gc.ca/en/common/acts.asp for details on aviation, marine and rail.) Data on road collisions are reported to the police and sent to the provinces and territories for data entry/validation. Through an agreement with the Canadian Council of Motor Transport Administrators, the electronic data are provided to Transport Canada to develop the national collision database.

It can take more than a year to compile the high volumes of data for more than 600,000 annual crash case occurrences and release them at the jurisdictional and national levels. Transport Canada is the primary source for the transportation of dangerous goods-related occurrence statistics. (See the TDG Regulations on reporting requirements at www.tc.gc.ca/tdg/clear/part8.htm.) Statistics on safety-related occurrences reflect the transportation system's safety performance and help focus efforts on initiatives and activities that have high safety benefits. At the same time, Transport Canada continues efforts to better align and link safety-related data with its key safety initiatives. In this year's report, these efforts are reflected for aviation where the TSB source data align with the Canadian Aviation Regulations and is linked to aviation safety's key results. (For more information, see Aviation Safety in this chapter.)

In 2006, there were 2.5 per cent fewer aviation accidents than in 2005, 4.8 per cent fewer marine accidents and 8.5 per cent fewer reported rail accidents. The latest available statistics for road casualty collisions (2005) show no appreciable change from 2004 (+0.4 per cent). Accidents involving the transportation of dangerous goods decreased from 386 in 2005 to 370 in 2006.

The safety performance of the transportation system can also be measured by the number of fatalities. In 2006, there were fewer fatalities in the marine, rail and aviation transportation modes than in 2005. However, in 2005 (the most recent statistics), there were 7.3 per cent more road-related fatalities than in 2004. There was also one fatality caused by dangerous goods in a transportation of dangerous goods accident in 2006. Table 4-1 and the more detailed Table A4-1 in the Addendum summarize the modal safety record, including the transportation of dangerous goods.

TABLE 4-1: SUMMARY OF TRANSPORTATION SAFETY STATISTICS BY MODE

	Aviation[1]	*Marine*[2]	*Rail*[3]	*Road*[4]	*TDG*[5]
Accidents					
2006	238	396	1,141	N/A	370
2005	244	416	1,247	151,975	386
2004	240	440	1,134	151,437	369
Five-year average (2001 – 2005)	262.6	440.4	1,090.6	156,167	397
Fatalities					
2006	47	16	94	N/A	1
2005	48	19	103	2,925	0
2004	34	27	101	2,725	1
Five-year average (2001 – 2005)	48.6	23.8	95.2	2,826	1

Note: Preliminary data for 2006.

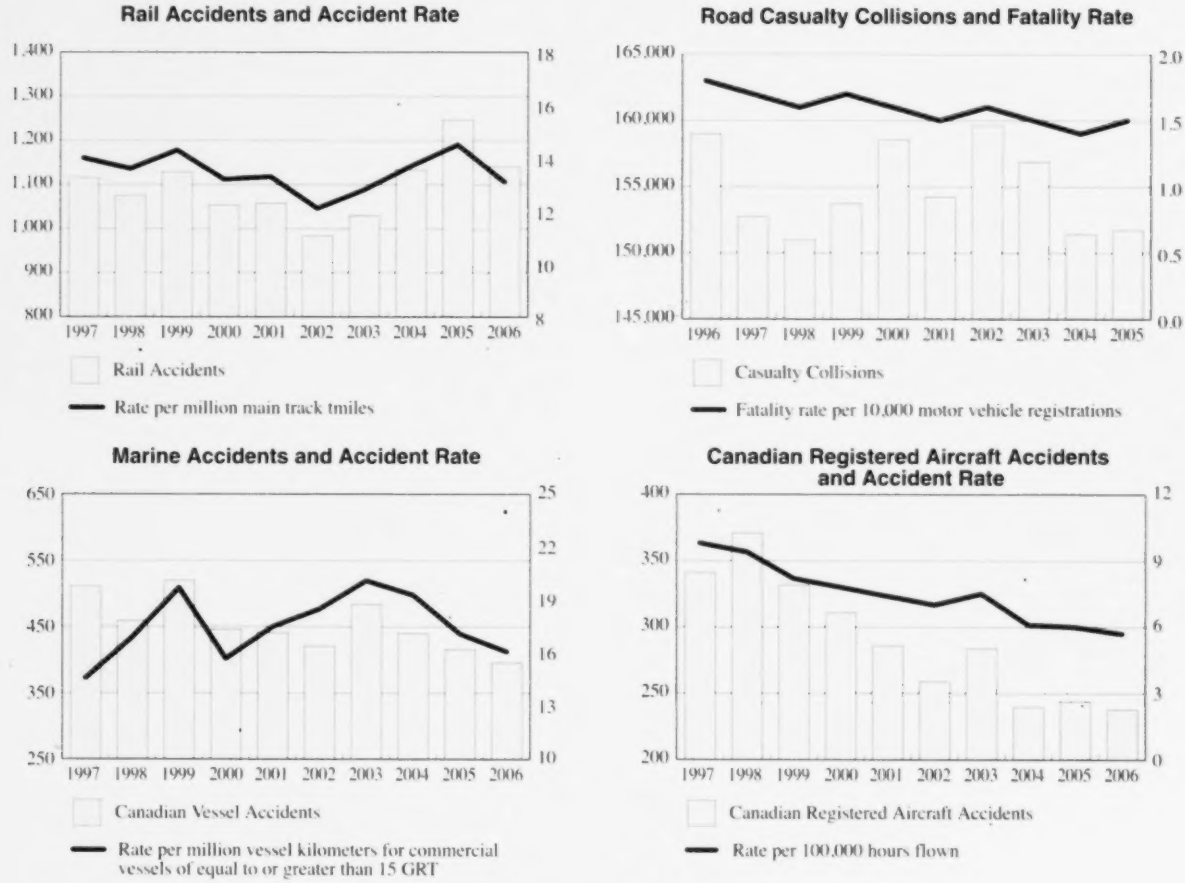
1. Canadian-registered aircraft, other than ultralights, based on the Canadian Aviation Regulations.
2. Canadian-registered and licensed vessels, other than pleasure craft, involved in shipping accidents and accidents aboard ship.
3. Railways under federal jurisdiction.
4. Road statistics relate to 2005 (most recent road safety statistics) and to the 2000 – 2004 five-year averages. Road accidents are casualty collisions, which exclude collisions in which only property is damaged.
5. Accidents where transportation of dangerous goods were involved. Fatality data relate only to those deaths caused by the dangerous goods.

Source: Transportation Safety Board, Transport Canada and Statistics Canada

To ensure that the year-over-year analysis and modal comparisons are complete, both the long-term trends and specifics of each mode, including level of activity and changes in exposure to risk, should be taken into account. That said, overall, accident rates for air in 2006 decreased from both the previous year and the previous five-year average. The accident rate for marine (available only for commercial vessels of over 15 gross tons) has declined over both the 2005 rate and the previous five-year average. Road accidents increased in 2005 and were 2.7 per cent below the average of the past five years.

The 2006 rate for rail accidents was down compared with the last two years and was constant with the five-year average. The rates also capture changes in the levels of activity measures: as the level of activity increases, so does the exposure to risk. Both have contributed to the changes in the number of accidents. Figure 4-2 shows the 10-year trend for the four modes. The trend, despite observed fluctuations from one year to another, is generally downward in terms of both number of accidents and accident rates per activity level. It is important to note that because the activity measure is particular to each mode, these rates are only a basis for interpreting the occurrence statistics within each mode and not for

FIGURE 4-2: ACCIDENTS AND ACCIDENT RATES PER ACTIVITY MEASURE FOR RAIL, ROAD, MARINE AND AVIATION



Source: Transportation Safety Board, Transport Canada and Statistics Canada

comparing across modes. In addition, the available activity measure (denominator), representing to a certain extent all or key operations of modal activities, may have its own set of data limitations. For more details, including information on limitations of data, see Table A4-1 in the Addendum.

Rail Safety

The number of rail accidents decreased from 1,247 in 2005 to 1,141 in 2006 and was 4.5 per cent above the five-year average of 1,091 accidents. The yearly accident rate fell from 13.0 to 11.91 per million train-miles (includes main track train-miles and yard switching-miles) and was relatively constant with the previous five-year average of 11.8.

This decrease in rail accidents was attributed mainly to fewer derailments, both main-track and non-main track: main-track derailments fell from 194 in 2005 to 133 in 2006, while non-main-track derailments fell from 540 to 480. Non-main-track train accidents, either a derailment or a collision, are for the most part minor, as they usually involve rolling stock travelling at slow speeds and generally pose less risk to the travelling public. In 2006, they accounted for 51.2 per cent of the total train accidents. In 2006, there were 94 fatalities, down from 103 in 2005 and on a par with the previous five-year average. There were 67 serious injuries, down from 77.

In 2006, there were 248 crossing accidents, down eight per cent from 269 in 2005 and still below the five-year average of 260. Fatalities related to crossing accidents also decreased, from 37 to 28. There were 92 trespasser accidents, up 11 per cent from 83 in 2005 and also above the 2001 – 2005 five-year average of 80. Fatalities from trespasser accidents decreased from 64 to 59, up slightly from the previous five-year average of 57. Figure 4-3 shows the trends in crossing and trespasser accidents from 1997 to 2006.

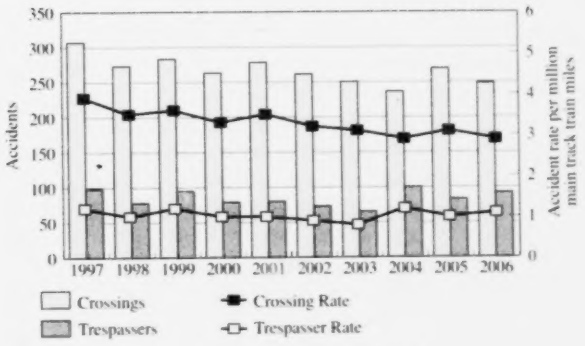
For more details, including a provincial breakdown of accidents, fatalities and serious injuries, as reported to the Transportation Safety Board, and involving railways under federal jurisdiction, see tables A4-2 to A4-4 in the Addendum.

Direction 2006 Initiative — In 1996, Transport Canada and its partners, the Railway Association of Canada, provincial and municipal governments, railway companies and their unions, law enforcement agencies and other safety organizations, joined forces to create Direction 2006. The goal of the program is to promote and implement initiatives that will change human behaviour at grade crossings and with respect to trespassing on railway property. The objective is to reduce railway grade crossing collisions and trespassing incidents by 50 per cent by 2006. This will be accomplished through eight key result areas: education, communications, enforcement, research, resources, outreach, legislation and performance measurement. High proportions of crossing and trespasser accidents are fatal or result in serious injury, and they continue to account for approximately 90 per cent of total fatal and serious injury rail accidents. Direction 2006 in its current form will be ending in the spring of 2007. Transport Canada is considering follow-up outreach initiatives.

For more information on Direction 2006, visit www.tc.gc.ca/Railway/Dir2006_e.htm.

Grade Crossing Improvement Program — Through the Grade Crossing Improvement Program, Transport Canada funds up to 80 per cent of safety enhancement costs at approximately 80 to 100 sites across Canada for a total of up to $7.5 million each year. Transport Canada has invested more than $100 million in this program over the past 15 years. While accidents at public passive crossings increased slightly in 2006, from 71 to 75, accidents at public automated crossings decreased from 160 to 114. This represents an overall decrease in accidents at public crossings in 2006. Accidents at private crossings, however, increased from 33 in 2005 to 43 in 2006.

FIGURE 4-3: DIRECTION 2006 – CROSSING AND TRESPASSER ACCIDENTS, 1997 – 2006



Source: Transport Canada, based on Transportation Safety Board data

Safety Management Systems (SMS) — In 2006, Transport Canada continued to work with the railway industry to adopt a comprehensive, systematic approach to railway safety through Railway Safety Management System (RSMS) regulatory audits. The RSMS Regulations came into force on March 31, 2001. They require all federally regulated railway companies to document, implement and maintain a RSMS with mandatory components as outlined in the regulations.

The audits showed that railways have made significant steps toward adopting more formalized approaches to managing safety. However, improvements are necessary to integrate the SMS approach within all operating levels of the railways. Transport Canada will continue to move toward a more focussed, issue-driven audit methodology, with a view to further enhancing industry safety culture.

Road Safety

Canada's road safety record continues to improve decade after decade. The average number of fatalities for the most recent ten-year period was 24 per cent lower than the 1986 – 1995 average. In 2005 (most recent statistics), there was a slight (0.4 per cent) increase in casualty collisions from 2004. There were 2,925 road user fatalities in 2005, a 7.3 per cent increase over the 2004 total of 2,725. Over the 1998 – 2005 period, fatalities fluctuated from a low of 2,725 in 2004 to a high of 2,985 in 1999. In 2005, there were 1,613 fewer road-related injuries, a 0.8 per cent decrease. Addendum Table A4-5 shows annual and longer-term trends in road-related casualty collisions that have resulted in fatalities and injuries.

The annual changes in these figures may be due in part to changes in vehicular traffic, such as the number of vehicle registrations (up 1.4 per cent in 2005) and vehicle-kilometres travelled (up 1.1 per cent). The casualty collision rate in 2005 was 48.2 per 100 million vehicle-kilometres travelled, down 0.4 points from the 2004 rate of 48.6. The longer-term downward trend in fatalities and total injuries — 426 fewer fatalities and 31,325 fewer injuries in 2005 than in 1995 — has helped reduce the estimated annual social cost to Canadians of up to $25 billion. While the rate of 1.5 fatalities per 10,000 motor vehicle registrations in 2005 was up 0.1 points over the 2004 rate (itself the lowest rate in the past 10 years and since the 1950s), it is still much lower than the 1.8 rate in 1996 and the 2.3 average for the 1986 – 1995 ten-year period. Fatalities and injuries per billion vehicle-kilometres travelled by provinces/territories are shown in Addendum Table A4-6.

Road Safety Vision 2010 (RSV 2010) — RSV 2010 was introduced by the federal, provincial and territorial governments and the Canadian Council of Motor Transport Administrators. Its strategic objectives are to raise awareness of road safety issues, improve communication, collaboration and cooperation among safety agencies, strengthen enforcement, and improve national road safety data collection and quality. Its national target is a 30 per cent decrease in the average number of road users killed or seriously injured during the 2008 – 2010 period over comparable 1996 – 2001 figures. In 2005, there were 1.4 per cent fewer fatalities and 4.0 per cent fewer serious injuries than the 1996 – 2001 baseline of the RSV 2010. For more information on targets and sub-target areas, see Road Safety *Vision 2010, 2005 Annual Report* at www.tc.gc.ca/roadsafety/vision/menu.htm.

Seat belts — A crucial RSV 2010 sub-target is for at least 95 per cent of Canadians to wear seat belts consistently. Thousands of lives are saved every year by seat belts. In 2005, 34.9 per cent of driver and 35.4 per cent of passenger fatalities were not wearing seat belts. (See Addendum Table A4-7.) The percentages for serious injuries among persons not wearing seat belts were much lower: 14.3 per cent for drivers and 19.9 per cent for passengers. This indicates a relatively higher risk of fatality for those not wearing seat belts in serious road crashes. For more details, see http://www.tc.gc.ca/roadsafety/tp/tp3322/2005/menu.htm. Transport Canada conducted a cross-Canada observational survey of seat belt use in rural communities during the daytime in September 2006 following a similar survey in urban communities in September 2005. The surveys showed that the seat belt wearing rate was lower in rural areas (88.3 per cent) than in urban communities (90.5 per cent). The rate was much lower among occupants of light trucks (about 82 per cent) than occupants of passenger cars (about 90 per cent). The rate was lower for male drivers, by approximately five percentage points, than for female drivers. Only 87.7 per cent of drivers aged 24 and under wore a seat belt, compared with 89.1 per cent of drivers aged 25 to 49 and 90.9 per cent of drivers aged 50 and over. For more information on these surveys, visit http://www.tc.gc.ca/roadsafety/stats/menu.htm, as well as Road Safety's main menu for related vehicle restraints and safety studies and programs (e.g. air bags, booster seats for children, child seats on school buses).

Impaired drivers — The percentage of fatally injured drivers who were tested and found with an alcohol concentration rate in their blood over the legal limit of 80 mg% has declined from about 40 per cent in the early 1990s to about 30 per cent in recent years (28 per cent in 2004). (mg% is defined as the weight of alcohol in the bloodstream stated as milligrams in 100 millilitres of blood.) Police-reported charges for impaired driving offences (for adults over 18 years of age) have similarly decreased, from over 111,000 in the early 1990s to 59,666 in 2005 (most recent data). Addendum Table A4-8 shows this downward trend. It is unclear what percentage of these reductions is a result of greater public awareness, tougher penalties or changes in traffic enforcement levels and/or procedures. While the observation of the role of drugs, such as cannabis, as a cause of collision dates back many years, much less is known about the impact of this drug on collisions. Concerns have increased, in Canada and abroad, due to studies revealing that cannabinoids are the drugs most commonly found (after alcohol) in drivers who have been injured or killed in motor vehicle collisions. Risks related to motor vehicle collisions increase in cases where drivers have used both alcohol and cannabis. For more information, see "Impacts of cannabis on driving: An analysis of current evidence with an emphasis on Canadian data" at www.tc.gc.ca/roadsafety/tp/tp14179/ menu.htm.

Addendum Table A4-10 shows that of the 2,925 fatalities in 2005, motor vehicle drivers accounted for 52.2 per cent while passengers accounted for 23.3 per cent. Pedestrian fatalities, accounting for 11.8 per cent of total fatalities, decreased from 367 in 2004 to 345 in 2005 and by 12.2 per cent from the most recent ten-year (1995 – 2004) average of 393. Motorcyclist fatalities have increased approximately 50 per cent in the last five years.

As Addendum Table A4-11 shows, of the vehicles involved in fatal collisions between 2001 and 2005, after automobiles, pickup trucks, cargo and panel vans, passenger vans and heavy trucks, were motorcycles (at a distant sixth place, accounting for 5.7 per cent), bicycles (in seventh place) and all buses (at eighth place with less than one per cent of the total). For more statistics on road safety system performance, visit www.tc.gc.ca/roadsafety/stats/menu.htm.

Commercial vehicles — Another key RSV 2010 sub-target is to reduce the number of road users killed or seriously injured in crashes involving commercial vehicles (i.e. heavy trucks and buses). Commercial vehicle drivers accounted for approximately 3.5 per cent of total licensed drivers between 2001 and 2005 (for details, visit http://www.tc.gc.ca/roadsafety/tp/tp3322/2004/page12.htm). Compared with passenger vehicles, however, they generally account for a much higher proportion of vehicle-kilometres travelled. From 2001 to 2005, the vehicles (commercial and other) in all collisions (fatal, injury and property damage) involving commercial vehicles accounted for 9.1 per cent of all vehicles involved in road collisions on average and approximately 20 per cent of all road fatalities. In 2005, there were 581 fatalities resulting from collisions involving commercial vehicles, compared with 579 in 2004. For details, see Addendum tables A4-9A and A4-9B.

Because fatigue is a recognized factor in transportation accidents, a key initiative in recent years has been to revise and modernize the hours of service regulations (under the consensus-based National Safety Code Standard #9) to allow trucking and busing companies to better manage the fatigue factor in their operations. In December 2004, government regulators and key players in the Canadian trucking and bus industries reached a consensus on safety rules for extraprovincial commercial vehicle operations. The Commercial Vehicle Drivers Hours of Service Regulations, published in the *Canada Gazette*, Part II, on November 16, 2005, came into effect on January 1, 2007. The regulations are available at http://canadagazette.gc.ca/partII/2005/20051116/html/sor313-e.html. Transport Canada has an ongoing research program on human performance and fatigue management. In 2004, a prototype fatigue management program for commercial drivers was developed to train drivers, dispatchers and company managers about ways to avoid fatigue and to get the best possible rest at home or on the road. The program underwent field trials in 2006 under a 2003 joint research agreement between Transport Canada and Canadian provincial and U.S. authorities. For information on human performance research, see http://www.tc.gc.ca/tdc/projects/hfactors/menu.htm.

Transport Canada also implemented legislative and regulatory changes on January 1, 2006, that establish a common approach to monitoring and measuring truck and bus safety performance across Canada. The new safety rating system, which is enforced by the provinces and territories, addresses driver, vehicle and motor carrier performance, including maintenance practices and the collision record. For more information, visit the Transport Canada Web site at www.tc.gc.ca/acts-regulations/general/M/mvta/regulations/mvta004/mvta4.html/.

Transport Canada also instituted a "Share the Road" Web site in December 2005 to help Canadians in sharing the road with commercial vehicles. The Web site provides important safety tips for both commercial and non-commercial vehicle drivers. For more information, visit http://www.tc.gc.ca/roadsafety/ShareTheRoad/menu.htm.

Marine Safety

There were five per cent fewer marine accidents involving Canadian-registered vessels in 2006 (396) than in 2005 (416). This was another record low and was 10 per cent lower than the previous five-year average.

Marine accident statistics include shipping accidents and accidents aboard ships. Historically, shipping accidents account for the majority of marine accidents, and 2006 was no exception, with 358 shipping accidents or 90 per cent of the total. Still, this was five per cent fewer than in 2005 and 10 per cent fewer than the previous five-year average. There were 12 fatalities from shipping accidents, down from 13 in 2005 and below the five-year average of 15.4, and 26 injuries resulting from these accidents, compared with 25 in 2005 and 31.4 for the five-year average. There were 30 vessels confirmed lost due to a shipping accident in 2006, down seven per cent from the previous five-year average of 32.4. Of the 385 Canadian vessels involved in a shipping accident, which includes those where more than one vessel was involved (e.g. collision between vessels), fishing vessels accounted for 51 per cent and commercial vessels for 37 per cent.

The rest of the Canadian vessel accidents were those aboard ship. In 2006, there were 38 such accidents, down from 40 in 2005 and below the five-year average of 42.6. Four fatalities resulted, down from six and below the five-year average of eight. The 39 injuries resulting from the accidents were close to the five-year average of 38.4.

For more details on marine accidents, including a provincial breakdown of occurrences, which take into account foreign vessels inside Canadian waters (not included in the above figures but reported to the Transportation Safety Board), see Addendum tables A4-12 and A4-13.

There are approximately 27,284 registered and 10,304 licensed vessels in Canada (excluding recreational) for a total of 37,588. The majority of these vessels, 62 per cent, are fishing vessels. Of the 14,369 commercial vessels, 71 per cent are less than 15 gross tons. For details on registered vessels, see http://www.tc.gc.ca/ ShipRegistry/ menu.asp?lang=e.

One of the key commitments in Marine Safety's Strategic Plan 2003 – 2010 is to reach specific safety targets by 2010, based on the 1998 – 2002 five-year averages for Canadian and foreign vessels. These safety targets are focussed on the number of fatalities (a 20 per cent reduction from 34.00 to 27.20), injuries (a 30 per cent reduction from 81.20 to 56.84) and the Canadian- and foreign-flag commercial accident rates (a 20 per cent reduction from 3.14 to 2.51 and from 2.10 to 1.68, respectively). The greatest progress against the safety goals in 2006 was shown in the fatality reduction target that exceeded 100 per cent. For more information on the plan and safety targets, visit www.tc.gc.ca/MarineSafety/ tp/tp13111/menu.htm.

Small commercial vessels (≤150 gross tons) — In 2006, there were 51 small vessels engaged in commercial activity that were involved in shipping accidents (excluding fishing). This accounted for 13.2 per cent of the national total for Canadian vessels. Of these, 23 were engaged in passenger/charter activities. For more details, see Addendum Table A4-14. Over the years, Canadian small vessels engaged in commercial fishing activities have consistently accounted for the highest proportion of the total Canadian vessels involved in shipping accidents. In 2006, they accounted for 48 per cent of the total. As Addendum Table A4-15 shows, however, accidents involving these vessels have declined considerably in the last decade. The Small Passenger Vessel Decal Program that was previously introduced to graphically indicate the vessels participating in the Small Vessel Monitoring and Inspection Program has continued to grow, receiving great acceptance from industry and the travelling public. In addition, the Canadian Marine Advisory Council (CMAC) Standing Committee on Fishing Vessel Safety, with government and industry representation, continued to address regulatory issues and operator certification and training.

International — As a member of the International Maritime Organization (IMO), Canada is required to report casualties for large commercial vessels. In 2006, there were no serious casualties involving a Canadian vessel that were identified at the time of report. There were, however, 61 shipping accidents and 10 accidents aboard ship involving foreign-flag vessels in Canadian waters. There were two fatalities and 16 injuries resulting from these accidents. Canada is a signatory to two Memoranda of Understanding (MOU) on Port State Control. In 2006, Canada continued to meet its obligations under the MOUs, inspecting 1,243 foreign-flag vessels. Improved targeting and special inspection programs for bulk carriers and tankers have helped improve the safety of foreign ships entering Canadian ports. This was evident once again in 2006, when the established trend in decreased detentions was sustained. Marine Safety publishes an annual report on the Port State Control Program that provides comprehensive data on inspections. Further details on the annual reports can be found at http://www.tc.gc.ca/MarineSafety/oep/inspection/ psc/reports.htm. In addition, to ensure that established safety practices and Canadian and international requirements are met, certain cargoes for export undergo mandatory inspections under provisions of the *Canada Shipping Act*. In 2006, 1,078 vessels were inspected for export of grain, timber on deck or concentrates, and 447 containers loaded with dangerous goods underwent inspection. Reports are available at http://www.tc.gc.ca/ MarineSafety/oep/inspection/cargoes/menu.htm.

Marine Transportation Safety Management Systems — These systems were implemented in 1998 on a worldwide basis for tankers, bulk carriers and passenger ships in international trade and were extended in 2002 to almost all vessels trading internationally. They are implemented through the Safety Management Regulations. To date, close to 82 Canadian vessels have obtained the required statutory certification issued by classification societies on behalf of Transport Canada. Through a well established monitoring program, Transport Canada directly monitored eight of the audits carried out by these authorized organizations and also reviewed 12 related audit reports in 2006. Transport Canada continues to support the voluntary adoption of Safety Management Systems by vessels operating in Canadian waters and is reviewing the feasibility of implementing a Safety Management System for operators of Canadian domestic vessels (including small passenger vessels).

Recreational boating safety — There were 97 recreational boating drowning fatalities in 2003, a number 11.8 per cent below the previous five-year average of 110.4. In addition, between 1996 and 2000, the most recent years available, there was an average of 16.2, non-drowning recreational boating fatalities. In 2006, over 100,000 (preliminary figure) recreational vessel licences were issued from over 300 Service Canada centres across the country (http://www.servicecanada.gc.ca/en/sc/boats/pcl.shtml). These data are recorded in an electronic database that is accessible to rescue organizations. It should be noted that there are approximately eight million recreational boaters in any given year. The Red Cross and the

Coast Guard Search and Rescue Group maintain comprehensive information on accidents and fatalities relating to pleasure craft at www.redcross.ca and www.ccg-gcc.gc.ca/sar/main. In November 2006, Marine Safety, in conjunction with Road Safety, initiated a pilot study with the Canadian Council of Motor Transport Administrators (CCMTA) and the Traffic Injury Research Foundation (TIRF) to identify, collect and assess available 2005 data on commercial and recreational marine vessel fatalities contained in the files of coroners'/medical examiners' offices across Canada. The information will be used for analysis purposes to help establish baselines and trends on boating–related accidents. This fatality information has the potential to aid in the design of evidence-based boating safety awareness and education programs. Transport Canada is also working with the Maritime Activity Risk Information Network (MARIN) group at Dalhousie University to create a spatial model of recreational boating in Canada (http://www.marin-research.ca/english/research/activity_types). Incident rates based on Search and Rescue incidents and other data sources will then be generated based on location and type of activity. This information will provide valuable input on targeting Transport Canada / Marine Safety outreach efforts.

In 2006, Transport Canada continued to enhance marine public safety through regulatory development, inspection and enforcement, and improved training as a result of the Marine Simulator Contribution Program.

Legislative and Regulatory Enhancements

The *Canada Shipping Act, 2001*(CSA 2001) is expected to enter into force on July 1, 2007. Phase I of the Regulatory Review involved the reform of more than 50 existing regulations into an estimated 24 regulations, and included those regulations that were inconsistent with the provisions of the *CSA 2001*, as well as those that were deemed to have a substantial impact on safety and the environment. Phase 2 will begin once the *CSA 2001* enters into force, and will involve modernizing the remaining regulations so as to ensure they are consistent with the requirements of the new Act.

By December 31, 2006 the following regulations were published in *Canada Gazette* Part I: Regulations for the Prevention of Pollution from Ships and for Dangerous Chemicals; Regulations Amending the Safety Management Regulations; Vessel Certificates Regulations; Marine Personnel Regulations; Load Line Regulations; and the Cargo, Fumigation and Tackle Regulations.

By December 31, 2006, the following regulations were published in *Canada Gazette* Part II: Regulations Repealing the Aids to Navigation Protection Regulations; Rule Repealing the Shipping Inquiries and Investigations Rules; Regulations Repealing the Publication of Standards Regulations; Ballast Water Control and Management Regulations; Regulations Amending the Pleasure Craft Sewage Pollution Prevention Regulations; Regulations Amending the Safety Management Regulations; Regulations Amending the Life Saving Equipment Regulations; and the Regulations Amending the Ship Station (Radio) Technical Regulations.

Transport Canada conducted extensive public consultations on Regulatory Review at the spring and fall 2006 regional and national meetings of the Canadian Marine Advisory Council (CMAC). In addition, several of the individual projects conducted outreach sessions with stakeholders at strategic locations across Canada in 2006.

Other activities in 2006 included the development and delivery of cross-Canada orientation sessions for Marine Safety Inspectors on the new *CSA 2001* Regime.

Inspection and Enforcement

Transport Canada has been busy developing a new compliance and enforcement regime for marine safety as a result of changes to the *CSA 2001*. Activities have included the development of a comprehensive enforcement policy and a detailed enforcement manual aimed at Marine Safety Inspectors.

A key component of the new *CSA 2001* regime is the establishment of a new enforcement mechanism and new tools that will be supported by the new Administrative Monetary Penalties Regulations (AMPs). These Regulations represent a completely new set of regulations for the marine sector. AMPs Regulations involve an administrative process of enforcement, and therefore, marine violators who would be charged with an offence will no longer be required to attend criminal court proceedings under the administrative monetary penalties system. Violators who receive a penalty under the AMPs Regulations will have the right to appeal the TCMS decision to the Transportation Appeal Tribunal of Canada.

During 2006, Marine Safety Inspectors carried out vessel inspections to ensure that regulatory requirements are respected and, consequently, public safety is protected. This inspection program is driven by legislative and regulatory requirements under the Canada Shipping Act. The *CSA 2001* allows for greater flexibility in the program and inspections will be based on risk analysis and attention to particular problems identified as affecting public safety. The particulars of the reform of the inspection program will be detailed after the *CSA 2001* comes into force.

Marine Simulators Contribution Program

Training of marine personnel will be enhanced thanks to the approval of a $7.2 million Marine Simulators Contribution Program, approved by Order-in-Council on December 18, 2006. This program will provide financial assistance to five provinces that have Marine Training Institutes over a four-year transition period, from April 1, 2007 to March 31, 2011. As a result of the gratuitous transfer of the ten marine training simulators, previously owned by the federal government, Transport Canada will be able to ensure consistent standards of training and performance without being prescriptive as to their use.

For further details on the above initiatives and other safety regimes under the Marine Safety Program, visit http://www.tc.gc.ca/marinesafety/menu.htm.

Aviation Safety

Canadian-registered aircraft were involved in 238 accidents in 2006 (preliminary figure), down from 244 accidents in 2005 and well below the previous five-year average of 263. The decline is largely attributable to a reduction in recreational aeroplane accidents. Preliminary information shows the 2006 accident rate as 5.7 per 100,000 flying hours compared with 6.0 in 2005 and the five-year average of 6.8.

In 2006, there were 131 commercially operating aircraft involved in accidents, accounting for 55 per cent of the total Canadian-registered aircraft accidents. There were 109 private/recreational aircraft involved in accidents. Historically, airlines and commuter aircraft account for a small portion of these accidents. In 2006, four Canadian-registered airliners were involved in accidents but none resulted in fatalities. There was one commuter operations accident, well below the 2001 – 2005 five-year average of seven, and no fatalities. As in the previous five years, approximately half (45 per cent) the commercial aviation operations accidents in 2006 involved air taxis: there were 59 accidents, compared with 56 in 2005 and the five-year average of 53. Of these 59 accidents, eight (13.6 per cent) were fatal accidents, causing 20 fatalities. There were 33 aerial work accidents in 2006, the same as in 2005, on par with both the previous year of 31, and the previous five-year average of 33.2. This figure accounted for 25.2 per cent of all 2006 commercial aviation operations accidents. Five of the aerial work accidents were fatal accidents and caused five fatalities.

Recreational aviation is a large contributor to the number of Canadian-registered aircraft accidents, accounting for 45.8 per cent of the 2006 total and 51.3 per cent for the 2001 – 2005 five-year average. In 2006, however, there were 19 per cent fewer recreational aircraft involved in accidents (excluding 29 basic and advanced ultra-lights) than in 2005, at 109 compared with 135. Of the 2006 total, 104 (95.4 per cent) involved aeroplanes, and 11 of these (10.6 per cent) were fatal. This is slightly below the 2001 – 2005 five-year average of 126.4 aeroplane accidents, of which 12.6 were fatal.

The number of reportable incidents reported to the Transportation Safety Board involving either a Canadian- or foreign-registered aircraft remained relatively unchanged in 2006 at 825, compared with 822 in 2005, but below the 2001 – 2005 average of 856.8. Declared Emergencies, at 31.5 per cent, accounted for the highest percentage among the categories of incidents. The 260 Declared Emergencies in 2006 was higher than in 2005 (224) but on par with the previous five-year average (266.0). For more details on aviation incidents, see Addendum Table A4-17.

The source of the data is Transport Canada's database, which contains data that are extracted from the Transportation Safety Board database and then aligned with the Canadian Aviation Regulations (CARs). Addendum Table A4-16 provides more details on these occurrences, and Addendum Table A4-17 further summarizes occurrences as they were reported to the Transportation Safety Board. Addendum Table A4-18 provides more detail on accident rates, and Addendum Table A4-19 provides a breakdown by province of aviation accidents, fatal accidents and fatalities.

Canada already has one of the safest aviation systems in the world, and accident statistics continue their downward trend. Transport Canada is committed to improving that record by building upon existing regulatory frameworks and focussing on risk management practices.

Flight 2010 — A Strategic Plan for Civil Aviation was released in May 2006. It charts the flight plan for Canada's aviation safety program in the years ahead. The two key results in the plan are continued improvement on the high level of aviation safety in Canada and a high level of public confidence in our Civil Aviation program.

Amendments to the Canadian Aviation Regulations requiring aviation organizations to implement Safety Management Systems (SMS) became law in June 2005, and Transport Canada is taking a phased approach to implementation. Larger organizations must put the regulatory changes in place within three years and meet process milestones along the way. The first major milestone was October 1, 2006, when operators in the airline category and aircraft maintenance organizations were required to demonstrate to Transport Canada that their SMS includes a safety management plan, a risk analysis process, a root cause analysis process, a process for reporting risk, and the ability to formulate and

implement appropriate corrective actions. Other parts of the industry will be required to implement an SMS appropriate for their size and complexity over the coming years. The goal is to have an SMS in all regulated aviation organizations by 2010.

Within Transport Canada's Civil Aviation organization, a management improvement approach to increase efficiency, effectiveness and accountability through an Integrated Management System (IMS) is being implemented. The IMS is an evolution of current management processes into a systematic, risk-based management process identical in concept to the SMS but more far-reaching. Once fully operational, an independent evaluation will be conducted along the lines of an SMS assessment.

In 2005, the Civil Aviation organization began a review exercise. Consultations are continuing and a dedicated team, the National Organization Transition Implementation Project team, will manage the transition issues over the coming years. There will continue to be interim changes as progress is made toward the 2010 end-state models envisioned for headquarters and regions. Some have been precipitated earlier than originally planned because of the October 1, 2006, SMS implementation milestone to effectively deliver the national oversight program.

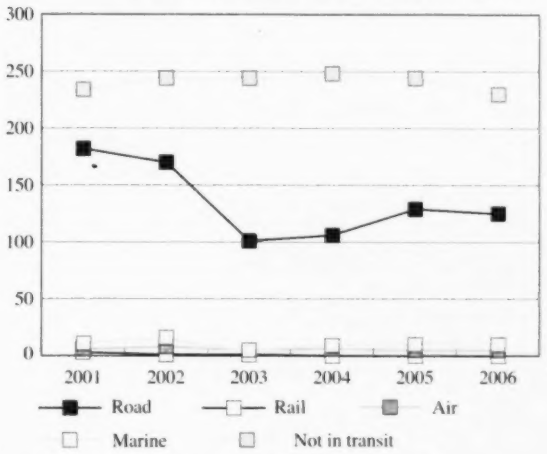
Legislation to amend the *Aeronautics Act*, Bill C-6, was introduced in the House of Commons on April 27, 2006. Second reading concluded on November 7, 2006, and the Bill was sent to the Standing Committee on Transport, Infrastructure and Communities for review. The proposed amendments to the Act will help modernize the legislation and give Transport Canada the required tools to maintain and enhance safety.

Transportation of Dangerous Goods

There were 370 accidents involving the transportation of dangerous goods in 2006, down from 386 in 2005. However, few accidents involving dangerous goods are actually caused by the goods themselves. As Figure 4-4 shows, most accidents involving dangerous goods in recent years occurred during the loading or unloading phase at transportation facilities, not during transport. The majority of deaths and injuries involving the transportation of dangerous goods were caused by the accident (a collision) itself, not the dangerous goods. In 2006, six fatalities and 40 injuries resulted from accidents involving dangerous goods. Of these, one fatality and 17 injuries resulted from the dangerous goods themselves.

Each year in Canada, there are approximately 30 million shipments of dangerous goods that are subject to the TDG Regulations. Almost all (99.99 per cent) arrive safely

FIGURE 4-4: TDG ACCIDENTS BY MODE AND AT TRANSPORTATION FACILITIES, 2001 – 2006



Source: Transport Canada, Dangerous Goods Accident Information System

at their destinations. As Figure 4-4 shows, among the four modes of transport, most reportable accidents (91 per cent) occur on the road. It is important to note, however, that 93 per cent of dangerous goods are shipped using road transportation. By tonnage, more than 46 per cent of the volume of dangerous goods transported in Canada is transported by road and 39 per cent is transported by rail. The TDG program does not cover dangerous goods transported in bulk on ships or by pipeline. For more information on TDG exposure data, contact provencherm@tc.gc.ca. For details on the number of accidents by mode of transport and those accidents resulting in fatalities and injuries, see Addendum tables A4-20A to A4-20C.

Tank car thermal protection integrity — Transport Canada, along with the U.S. Department of Transportation (Federal Railroad Administration) and railway and tank car industries, agreed to undertake full-size tank car fire tests. The performance of rail tank cars filled with propane in a fully engulfing fire will give Transport Canada inspectors a realistic set of defect assessment criteria.

Highway tank trailer vent and burn — Transport Canada continued the vent and burn procedure on three propane tanks. Transport Canada is using the data to develop awareness material for emergency responders. For further information on the vent and burn project, refer to the article in the Transport Dangerous Goods Newsletter, Fall edition, at www.tc.gc.ca/tdg/newsletter/menu.htm.

The National TDG Program — This program includes the development of standards and regulations, inspection and enforcement policies, tools for emergency response support, and the manufacture, use and testing of standardized means of containment to promote public safety in the transportation of dangerous goods in

Canada. In 2006, Transport Canada offered training sessions on the TDG Regulations to federal, provincial and territorial inspectors throughout the country. Transport Canada also approved facilities that manufacture or maintain means of containment as required in the standards.

When compliance with the *Transportation of Dangerous Goods Act* may be difficult (e.g. the introduction of new technologies), the Act provides the option to apply for a "Permit for Equivalent Level of Safety." Applicants must demonstrate when their proposed activity is not in compliance with the prescribed requirements, that it will be conducted at a level of safety at least equivalent to these requirements. In 2006, Transport Canada received 886 applications and issued 776 decisions.

International harmonization — Transport Canada's goal to harmonize the regulatory requirements across jurisdictions remains an important objective. In 2006, TDG led the United Nations Sub-committee of Experts on the Transportation of Dangerous Goods (UNSCETDG) in reviewing testing requirements for intermediate bulk containers (IBCs). The U.N. adopted additional testing and other revisions to the Model Regulations for IBCs that will enhance safety. These revisions will be adopted by the IMO and possibly by the ICAO, other international regulatory bodies and national authorities, thus enhancing international and domestic harmonization of requirements. Transport Canada continued discussions with the U.S. DOT to further harmonize regulatory requirements for means of containment. This includes the Manufactured Goods and Sectoral and Regional Competitiveness Working Group under the prosperity side of the Security and Prosperity Partnership of North America (SPP), which identified an initiative to develop the recognition of Canadian tanks by the U.S. DOT. This initiative is also a Smart Regulations initiative. In 2006, Transport Canada initiated standards development work to adopt the U.N. Recommendations on portable tanks for domestic use. Amendment 6, which proposes to further harmonize the TDG Regulations, was pre-published in the *Canada Gazette*, Part I, for comment.

Emergency Response Guidebook — The Canadian Transport Emergency Centre (CANUTEC) provides technical assistance to persons involved in dangerous goods emergencies in order to promote public safety 24 hours a day, seven days a week. CANUTEC handles over 30,000 calls a year. The review of the Emergency Response Guidebook 2004 has been under way for future publication and distribution to fire and police departments as well as ambulance services. The ERG2008 will also be made available as a free downloadable database in three languages. For more information, visit www.CANUTEC.gc.ca.

TRANSPORTATION SECURITY

In 2006, Transport Canada continued to strengthen Canada's transportation security regime through various enhancements and government-wide initiatives, in collaboration with other federal government departments, other countries and international organizations, labour organizations, industry and other stakeholders.

Transport Canada continued to play an important role in the Security and Prosperity Partnership (SPP). In 2005, the leaders of Canada, the United States and Mexico, agreed to pursue discussions on ways to enhance the security of North America and promote the quality of life of its citizens. Transportation security is a key component of the SPP, and Transport Canada continued to collaborate effectively with Canadian stakeholders, the United States and Mexico to develop and implement North American transportation security strategies on, among other issues, aviation security, marine security, emergency preparedness and critical infrastructure protection.

Aviation Security

Perceptions of Air Travel Security

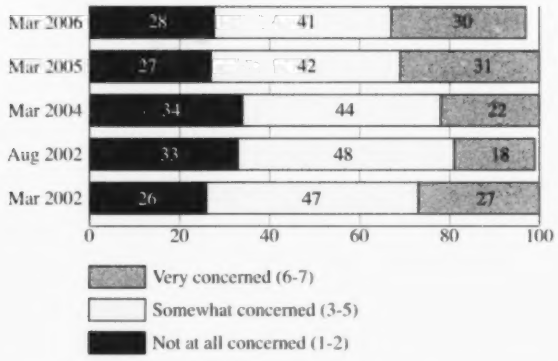
In 2006, Transport Canada continued to implement a number of aviation security initiatives in collaboration with other federal government departments, other countries and international organizations, industry stakeholders and labour organizations. Public confidence in aviation security has gained stability over the past year and has remained relatively unchanged since 2005 (see Table 4-2 and Figure 4-5).

TABLE 4-2: PUBLIC PERCEPTIONS OF AVIATION SECURITY

- Concern about and confidence in the security aspect of air travel is stable. Currently, 30 per cent of Canadians are very concerned and 41 per cent are somewhat concerned. Paradoxically, confidence in security remains high (96 per cent express at least a moderate level of confidence).
- Thinking of the last time they had travelled by air, a plurality of flyers (48 per cent) feels that passenger screening is very thorough, and slightly fewer (42 per cent) feel it is somewhat thorough.
- Nine in 10 Canadians believe that luggage and passenger screening procedures are at least moderately effective. However, 45 per cent also believe that passenger screening measures are not uniformly applied across the country.
- Seventy-three per cent of Canadians now believe there are sufficient security procedures in place to protect air travellers. This represents an increase of seven percentage points since 2002.
- In contrast to self-reported wait times falling well within reasonable limits, flyers are least satisfied with the time it took them to go through security.
- Overall, nearly all flyers express moderate to high levels of satisfaction with their most recent air travel experience. With respect to specific aspects of this experience, flyers are most satisfied with the overall sense of security at the airport (64 per cent express high levels of satisfaction).

Source: Perceptions of Air Travel Safety and Security in Canada: Wave IV, EKOS Research Associates (March 31, 2006).

FIGURE 4-5: CONCERN WITH SECURITY OF AIR TRAVEL



Source: Perceptions of Air Travel Safety and Security in Canada: Wave V, EKOS Research Associates (March 31, 2006)

Aviation Security Initiatives

Key aviation security initiatives in 2006 include:

- legislative and regulatory enhancements;
- programs such as the Aviation Transportation Security Clearance Program; and
- international initiatives.

In addition to these activities, the advisory panel appointed by the Minister of Transport Canada continued to review the *Canadian Air Transport Security Authority (CATSA) Act*. The Act came into force on April 1, 2002. It required the Minister of Transport to complete a review of the provisions and operation of the legislation during its sixth year and report on the results to Parliament. This expert panel consulted with stakeholders across the country to identify possible enhancements to the *Canadian Air Transport Security Authority Act*. The panel's report was tabled on December 12, 2006.

Legislative and Regulatory Enhancements

To augment the rigorous security standards already in place, Transport Canada developed security regulations in 2006 to:

- facilitate the movement of passengers and goods through Canadian airports without compromising aviation security;
- create an enhanced security regime for specific air carriers or all carriers travelling between Canada and specific countries by tailoring customized requirements to effectively mitigate security risks associated with flights;
- enhance pre-board security screening through its new security measures, including prohibiting certain liquids and gels on board aircraft; and
- enhance access to restricted areas of airports through the use of Restricted Area Identity Cards (RAIC), a biometric-enabled technology used to verify accurately the individuals accessing restricted areas in and around Canada's 29 major airports.

Aviation Transportation Security Clearance Program

In 2006, Transport Canada continued to manage the Aviation Transportation Security Clearance Program to reduce the risk of unauthorized persons entering restricted areas of an airport. This program uses the Transport Canada Automated Fingerprint Identification System (TCAFIS) to modernize and speed up processing times for aviation transportation security clearances, thus making airport security more effective and efficient.

In 2006, Transport Canada processed about 40,000 applications for security clearances from air industry stakeholders and persons requiring access to secure areas of airports.

International Initiatives

Transport Canada continued to work with key international allies and international organizations.

Transport Canada continued to co-chair the Canada–U.S. Transportation Security Cooperation Group (TSCG). Bringing the two countries together to discuss issues of common interest related to transportation security, the TSCG played an important role in working toward achieving bilateral SPP aviation and transportation security goals. Similarly, Transport Canada continued to work with the United States and Mexico in the North American Aviation Trilateral (NAAT), a forum enabling the three countries to discuss aviation security concerns and work toward achieving trilateral SPP aviation security goals. Both the TSCG and NAAT enabled Transport Canada to make progress on harmonizing security policies and regulations across the three countries.

Transport Canada coordinated Canada's involvement in the international transportation security initiatives and programs. Transport Canada works with international partners to build a common approach to security and facilitate joint activity and the leveraging of resources. Examples included the coordination of several transportation security initiatives within the context of the Department of Foreign Affairs' Counter-Terrorism Capacity Building (CTCB) Program and the Western Hemisphere Transportation Initiative's Group of Experts on Aviation Safety, Security and Assistance (GEASSA), among others.

Transport Canada continued to enhance Canada's influence and reputation on the international stage by working with organizations such as the International Civil Aviation Organization, the European Civil Aviation Conference, the International Maritime Organization, the North Atlantic Treaty Organization (NATO) and other governments (e.g. the U.S. Department of Homeland Security).

Marine Security

Marine Security is an important component of overall transportation security that strives to improve security at Canadian ports, on inland waterways and in territorial waters. Since September 11, 2001, the Government of Canada has dedicated $930 million for projects to improve marine security in Canada, including measures to protect marine infrastructure, increase the surveillance of maritime traffic and improve Canada's capability to respond to emergency situations.

One of the most significant efforts to enhance Canada's marine security followed the International Maritime Organization's (IMO) development of the International Ship and Port Facility Security (ISPS) Code, which came into force July 1, 2004. The ISPS Code is a comprehensive security regime that establishes an international framework of cooperation between governments, government agencies and the shipping and port industries in order to detect and take preventative measures against security incidents affecting ships or port facilities used in international trade. This Code applies to ships engaged on international voyages. In Canada, the ISPS Code was implemented and is currently enforced through the Marine Transportation Security Regulations (MTSRs). It is important to note that Canada's marine security program meets or exceeds international standards and ranks among the best in the world.

In 2006, Transport Canada continued to develop the national marine security regime through regulatory enhancements, inspection and enforcement, the Marine Security Contribution Program, and the work of the Interdepartmental Marine Security Working Group.

Legislative and Regulatory Enhancements

- Amendments to the Marine Transportation Security Regulations were published in the *Canada Gazette*, Part II, on November 15, 2006. These amendments add substantive new Parts (5, 6 and 7) to the Regulations and correct certain minor errors and inconsistencies. Part 5 implements a marine workers' security clearance program, referred to as the Marine Transportation Security Clearance Program (MTSCP). Part 6 implements an administrative monetary penalty (AMP) enforcement scheme, and Part 7 implements the notice and service requirements applicable to that enforcement scheme. The purpose of the MTSCP is to enhance the security of the marine transportation system. The MTSCP is not a new program but an expansion of the existing Security Clearance Program, which has been in place in Canada's airports since the 1980s.
- A working group established at the November 2005 meeting of the Canadian Marine Advisory Council continues to examine the possibility of introducing new security requirements for domestic ferries.
- Work continued on the development of a Domestic Vessel and Facility Security Strategy that will provide a comprehensive framework for addressing domestic vessel and facility security.
- Transport Canada continues its work on an information guide for industry that will address security requirements for tall ships and all other special events.
- Other activities in 2006 included the administrative set-up in support of IMO regulatory requirements and the training and provision of regulatory guidance/interpretation of the MTSRs for both internal and external stakeholders.

Inspection and Enforcement

Transport Canada has been active across the country carrying out various activities, including standard-setting, inspection and compliance, and completed awareness, education and support activities. During fiscal year 2005/06, Transport Canada made significant progress by:

- continuing assessments of ports, facilities and vessels against regulatory requirements;
- continuing work with the Department of National Defence and key federal marine security partners in moving the coastal Marine Security Operations Centres (MSOC) in Halifax and Victoria to operational capability to detect, assess, prevent and respond to a direct or indirect marine security threat;
- continuing the development of training programs and tools to ensure that inspection/enforcement programs are consistent across Canada;
- maintaining liaison with the U.S. Coast Guard, including the implementation of joint vessel inspections for foreign-flagged ships and reciprocal port visits to build on best practices;
- maintaining liaison with Canadian and international stakeholders and industry; and

- conducting and developing various industry awareness presentations and publications to ensure constant flow of information and awareness activities to keep target audiences regularly informed of marine security developments and accomplishments.

Marine Security Contribution Program

Enhancements to Canada's ports and marine facilities will continue under the $115 million Marine Security Contribution Program, which began in 2004 as a three-year commitment to assist ports and other marine facilities with security enhancements. In June 2006, the Government announced that the program would be expanded to include domestic ferry operators and would also be extended by two years for all facilities other than Canada Port Authorities.

In 2006, more than $40 million in funding was approved for over 380 security enhancement projects. This brings the total approved funding to date to more than $85 million for more than 990 security enhancement projects. Over the next three years, the program will continue to fund such projects as the purchase of surveillance equipment (including cameras and closed-circuit TV systems); improvements to dockside and perimeter security and access control, such as fencing, gate signage and lighting; and other port security enhancements.

Interdepartmental Marine Security Working Group (IMSWG)

Transport Canada leads the Interdepartmental Marine Security Working Group (IMSWG), which coordinates marine security efforts on behalf of the Government of Canada. The working group includes other government departments and agencies participating in marine security enhancements. In 2006, the working group:

- ensured effective delivery of marine security initiatives;
- provided strategic advice on marine security gaps;
- facilitated cooperation and coordination among member departments and agencies;
- developed national marine security policy recommendations; and
- facilitated communication with federal departments and agencies and other key stakeholders.

Transport Canada also administers the Marine Security Coordination Fund, on behalf of the IMSWG. This is a funding program that supports one-time or limited-period projects by departments or agencies that will help improve the coordination of marine security efforts across the federal government and with other jurisdictions involved in marine security. During 2006, the IMSWG approved funding for interdepartmental projects proposed by Health Canada, Canada Border Services Agency, Transport Canada, the Royal Canadian Mounted Police and the Canadian Space Agency.

Transport Canada has the national lead to progress maritime security objectives within the Security and Prosperity Partnership with Mexico and the United States. The trilateral North American Maritime Security Working Group and bilateral Canada–United States Maritime Security Working Group were created as the principal forums for bilateral and trilateral inter-agency discussion and coordination to enhance Canada–Mexico–United States maritime transportation security.

Canada is represented by Transport Canada at many major international organizations, such as the IMO, the Group of Eight (G8), the Asia–Pacific Economic Cooperation (APEC) and the Organization of American States (OAS). All have identified the security of the global marine transportation system as a high priority. Transport Canada participated with partner nations in numerous conferences and meetings on a range of global marine security initiatives and issues and contributed to international marine security capacity building by delivering workshops in other countries.

Surface Security

Rail and Urban Transit Security

As the events of Madrid, London and Mumbai have shown, rail and urban transit systems remain vulnerable to terrorist attacks, as they are large, open systems and carry high volumes of passengers. In recognizing this vulnerability, the federal government in 2006 committed $115 million over five years to enhance the security of Canada's passenger rail and urban transit operators.

Included in this funding is Transit-Secure, a two-year, $80 million contribution funding program designed to provide an incentive for operators of passenger rail and urban transit services to implement new and enhanced security initiatives. Based on current risk assessments, funding will be concentrated on the six urban centres with major urban transit systems: Vancouver, Edmonton, Calgary, Toronto, the National Capital Region and Montreal. However, smaller operators will also be eligible to receive funds for risk assessments and security plans.

The first round of funding was aimed at major operators in the six urban centres and approved up to $37 million for risk assessments, security plans, employee training programs, public awareness, and the upgrade of security equipment such as access control technology and lighting. Smaller operators will be eligible for up to $3.9 million. The remaining funding rounds will be announced in 2007.

As well, drawing on international best practices, Transport Canada is working with federal partners, other levels of government, transportation experts and the transportation community to develop a comprehensive long-term policy. The policy will look at a range of approaches to achieving a sustainable and comprehensive security regime for rail and urban transit in Canada.

Intermodal Cargo Security

Budget 2006 allocated $26 million over two years to enhance air cargo security in Canada. Implementation of initiatives to improve cargo screening and security of the air cargo supply chain will commence early in 2007. Consultations to ensure harmonization with international standards and the utilization of best industry practices will continue to be held with national and international partners, including the Canada Border Services Agency, CATSA, Canadian industry, the United States and the United Kingdom throughout the development process.

In summer 2006, the National Air Cargo Security Training and Awareness Committee launched a security awareness campaign to emphasize the importance for employees of air cargo-handling facilities to monitor control of access to restricted area.

Critical Infrastructure Protection and Emergency Preparedness

National Critical Infrastructure Assurance Program (NCIAP)

Transport Canada continued to work with a number of federal government departments, the provinces, territories and stakeholders to develop a National Critical Infrastructure Protection (CIP) Strategy. Transport Canada also continued to work cooperatively with the United States on critical infrastructure protection, including co-chairing the Canada–U.S. CIP Steering Committee.

Emergency Preparedness Activities

In 2006, the main focus was to train and exercise staff in the Transport Canada Situation Centre to ensure effective response to all incidents, emergencies and crisis affecting the transportation system.

Transport Canada participated in eight meetings of NATO's transportation plenary boards, committees and their working groups in accordance with its responsibilities under Canada's International NATO Policy. In addition, the Insurance Study Group made some progress on the NATO War Risk Insurance Indemnity Agreement for both the marine and aviation schemes. These agreements will ensure NATO's ability to acquire quality civilian airlift and sealift capacity in times of crisis.

Chemical, Biological, Radiological, and Nuclear (CBRN) Response Project

Transport Canada continued to implement the Chemical, Biological, Radiological and Nuclear (CBRN) Response Project for the transportation of dangerous goods. The goal of this project is to secure access to trained industrial emergency response teams that, when requested by authorities, are capable of helping first responders handle dangerous goods used as CBRN agents in terrorism situations in Canada.

The project is based on the network of existing responders that has been developed over the years under the *Transportation of Dangerous Goods Act*'s Emergency Response Assistance Plan requirements. These responders routinely provide assistance to first responders in handling dangerous goods involved in transportation accidents and are therefore appropriately trained and equipped.

In 2006, Transport Canada continued to work with other federal government departments and the provinces to share information and best practices and increase capabilities to respond in the event of an incident. Potential industrial responders have been provided with additional awareness training, and many have expressed interest in the project. There are approximately 30 organizations participating on the CBRN Response Project on a voluntary basis.

TRANSPORTATION AND THE ENVIRONMENT 5

The government announced a tax credit for transit users in relation to monthly (or longer duration) passes and its intent to regulate the fuel consumption of road motor vehicles.

Overview

Transportation and the environment have a complex relationship. Transportation activity, the actual movement of goods and people, has both direct and indirect impacts on the environment. These include emissions to air, water and land. Reducing those impacts is an enormous challenge in a country such as Canada, where transportation is fundamental to Canada's economic prosperity and Canadians' quality of life.

In 2006, the Commissioner of the Environment and Sustainable Development (CESD) reported that the federal government should do more to reduce emissions within key sectors, such as transportation. However, reducing air, water and land pollution needs to be balanced with the economic imperatives and social needs of our geography.

To maintain and improve our competitiveness, we need to ensure that our transportation system is efficient and responsive to new challenges. We must also ensure that it addresses key environmental priorities such as clean air, greenhouse gas (GHG) emissions reduction, clean land and clean water.

In Canada, transportation is a shared jurisdiction, with the federal, provincial and municipal governments all having important roles to play. Within the federal government, Transport Canada has the lead responsibility for many issues involving both transportation and the environment, but there are also important roles for Natural Resources Canada, Environment Canada and Industry Canada.

Federal Government's Environmental Agenda

Addressing the health and environmental consequences of air emissions is a priority of the new government. In 2006, a commitment was made to develop a comprehensive Environmental Agenda that would encompass a new approach to addressing climate change and clean air. A budget of $2 billion over four years has been allocated to implement this agenda.

The federal government's new approach integrates climate change and clean air while taking concrete actions in the near term to promote the achievement of long-term results. The approach emphasizes legislative and regulatory action to limit air pollutants and GHG emissions starting in 2010, complemented with a streamlined package of initiatives for early action and investment.

Air Pollution Emissions

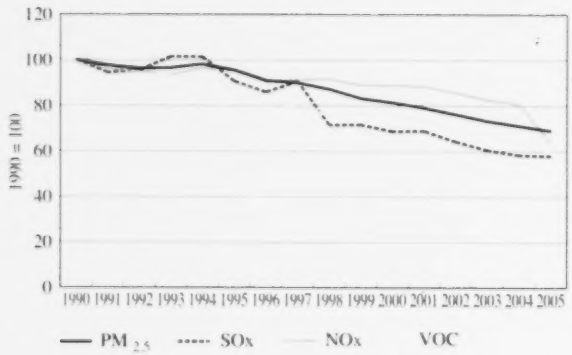
Air pollution emissions represent a significant environmental and health issue for Canadians, particularly for the roughly 80 per cent of people who live and/or work in urban areas. These emissions include pollutants such as nitrogen oxides (NOx) and sulphur oxides (SOx), volatile organic compounds (VOC) and particulate matter (PM_{10} or $PM_{2.5}$). Collectively, these emissions are known as criteria air contaminants, and they come from a wide range of sources, including the transportation system. Urban smog is perhaps the most visible impact of these emissions. Urban smog has been linked to several thousand premature deaths in Canada each year, as well as to numerous health-related problems. Smog is composed of two main ingredients: ground-level ozone and particulate matter. Ground-level ozone is created when NOx and VOC react together under specific conditions, such as calm, sunny days.

Burning fossil fuels produces the majority of NOx emissions. NOx, along with sulphur dioxide (SO_2), also contribute to acid rain. VOC are found in gasoline fumes and solvents. Fine particulate matter (PM) is produced during fossil fuel combustion in motor vehicles, power plants and large industries. It also comes from dust from paved and unpaved roads and road construction as well as forest fires.

Trends in Air Emissions from the Transportation Sector

It should be noted that fuels vary considerably in terms of their emissions. For example, in 2005, on-road and off-road diesel engines accounted for roughly 70 per cent of transportation-related $PM_{2.5}$ emissions (off-road diesel use alone accounts for 56 per cent) and 52 per cent of transportation-related NOx emissions. Gasoline engines, on the other hand, account for 88 per cent of transportation-related VOC emissions. Marine transportation, which uses a mix of diesel and heavy fuel oil, is responsible for 49 per cent of transportation-related SOx emissions. Figure 5-1 illustrates the trends in transportation-related $PM_{2.5}$, SOx, NOx and VOC emissions (1990 trends indexed to 100). Since 1990, the trend in all these emissions has been downward, largely due to regulatory changes introduced by the federal government aimed at reducing the health impacts of smog and the impacts of acid rain.

FIGURE 5-1: AIR POLLUTION EMISSION FROM THE TRANSPORTATION SECTOR, 1990 – 2005



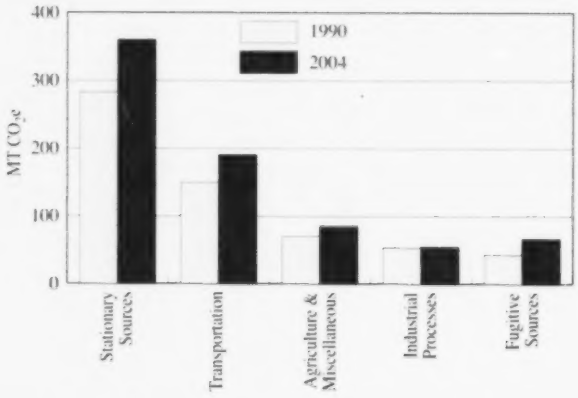
Source: Environment Canada, 2006 Criteria Air Contaminant Inventory, Preliminary Estimates

Greenhouse Gas

In 2004, Canadians contributed about 758 megatonnes (Mt) of carbon dioxide equivalent (Mt CO_2 eq) of GHGs to the atmosphere. This was an increase of 0.6 per cent over the 754 Mt recorded in 2003, considerably less than the 3.9 per cent increase the previous year. Canada's economic GHG intensity — the amount of GHGs emitted per unit of economic activity — was 2.6 per cent lower in 2004 than in 2003. Since 1990, emissions have increased by about 27 per cent. Figure 5-2 shows that the transportation component of total emissions was 190 Mt in 2004, or 25 per cent of the total. However, since 1990, transportation's share of total emissions has remained fairly stable at around 24 to 26 per cent.

On-road emissions accounted for 76 per cent of total transportation emissions in 2004, while domestic air-related emissions accounted for four per cent, and rail and domestic marine each accounted for three per cent. Off-road and pipelines combined accounted for the remaining 15 per cent of total GHG emissions from transportation. (Note: Totals in this paragraph do not add up to 100 due to rounding.)

FIGURE 5-2: TOTAL GHG EMISSION BY SECTOR, 1990 AND 2004

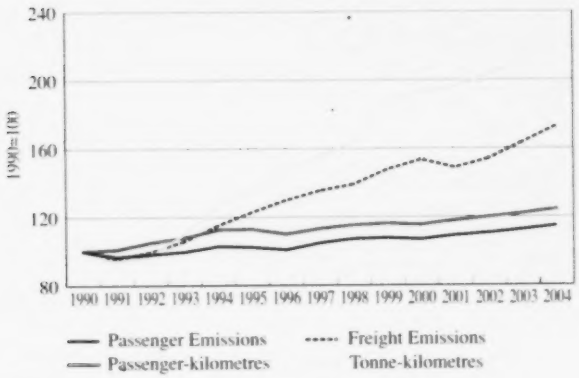


Source: Canada's Greenhouse Gas Inventory, 1990-2004, Environment Canada

Figure 5-3 shows the trends from 1990 to 2004 in on-road GHG emissions and activity levels from the passenger and freight sectors (1990 levels indexed to 100). During this period, emissions from on-road passenger travel increased by roughly 16 per cent, while passenger-kilometres increased by 30 per cent. This indicated a small improvement in the GHG intensity of on-road passenger vehicles transportation.

Figure 5-3 also shows that GHG emission levels of on-road freight increased by 73 per cent over the same period, more than five times the increase in passenger GHG emissions. Considered in the context of a 125 per cent increase in freight activity levels measured in tonne-kilometres, however, this indicates that while freight is accounting for increasing levels of GHGs compared with passenger travel, it is also becoming more efficient by decoupling GHG emissions from activity. Freight accounted for 23 per cent less GHGs emitted per tonne-kilometres in 2004 than in 1990. This has been achieved in a number of ways, including the adoption of better operating practices and the use of more efficient equipment.

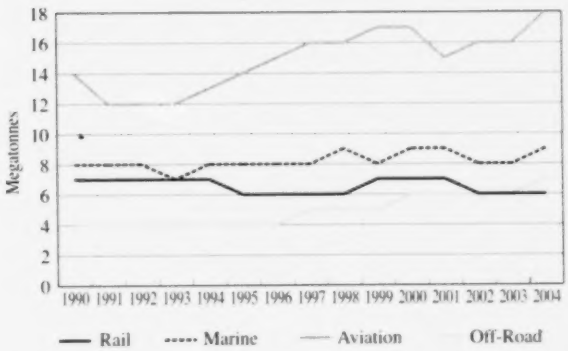
FIGURE 5-3: TRENDS IN ROAD TRANSPORTATION GHG EMISSIONS AND ACTIVITY, 1990 – 2004



Source: Energy Use Handbook: August 2006; Natural Resources Canada, Office of Energy Efficiency

Figure 5-4 shows the trends in GHG emissions from the rail, aviation, marine and off-road sectors from 1990 to 2004. At 17 Mt, aviation was the largest non-road contributor to the transportation GHG emissions sector. The marine sector, at 9 Mt, was the next largest contributor; however, marine emissions overall have been relatively constant over this period, with a six per cent increase. The rail sector was responsible for 6 Mt in 2004, a 15 per cent reduction from 1990, even though rail freight activity levels have increased by 30 per cent since 1990.

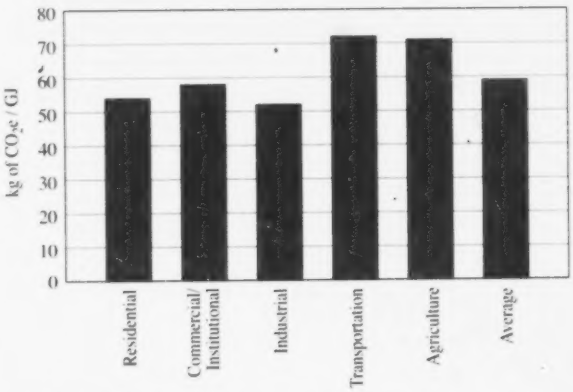
FIGURE 5-4: NON-ROAD TRANSPORTATION GHG EMISSIONS, 1990 – 2004



Source: Energy Use Handbook: August 2006; Natural Resources Canada, Office of Energy Efficiency

Transportation GHG emissions are increasing at a slower rate than activity because of the more efficient travel of people and goods. However, when looking at energy end use, the sources of energy used in the transportation sector make it the most GHG-intensive sector per unit of energy consumed in the Canadian economy, as is shown in Figure 5-5.

FIGURE 5-5: GHG INTENSITY OF ENERGY END USE SECTORS, 2004



Source: Energy Use Handbook: August 2006; Natural Resources Canada, Office of Energy Efficiency

Federal Initiatives

Clean Air Regulatory Agenda

The Clean Air Regulatory Agenda sets out the Government of Canada's comprehensive plan for regulating emissions from various sources. This includes new provisions for regulating automobiles, railways and commercial and consumer products.

The Notice of Intent (NOI) to develop and implement regulations and other measures to reduce air emissions was published in the *Canada Gazette* on October 21, 2006. The NOI sets out the federal government's intention to address all major sources of air emissions. As specified in the NOI, the Government intends to continue developing and implementing regulations to reduce smog- and acid rain-forming emissions from on-road and off-road vehicles and engines.

The Government intends to regulate the fuel consumption of road motor vehicles. The Minister of Transport, with the Minister of Natural Resources, will develop regulations that will build on the 2005 voluntary commitment the auto industry collectively made to reduce 5.3 Mt of GHGs by 2010 through ongoing improvements in fuel consumption performance. These new regulations will be developed and implemented under the *Motor Vehicle Fuel Consumption Standards Act*, as amended by the proposed *Canada's Clean Air Act*. Regulations will take effect for the 2011 model year, following the expiry of the Memorandum of Understanding between the auto industry and the Government of Canada.

Under the 2006 NOI, a number of new regulations were introduced for on-road and off-road vehicles and engines that were not previously regulated. For example, heavy-duty diesel engines used in off-road applications such as construction, mining and agricultural applications will be subject to stringent emission standards for the first time in Canada.

New regulations were finalized in 2006 to strengthen Canada's regulations for on-road motorcycles, including extending the scope of regulations to cover small scooters and mopeds for the first time. Proposed regulations were also published to establish stringent standards to reduce smog-forming emissions from outboard engines, personal watercraft, snowmobiles, off-road motorcycles and all-terrain vehicles.

The Government's comprehensive approach, as described in the NOI, will reduce emissions of air pollutants and GHGs and will include all major sources of air emissions, including all transportation sectors (road, rail, aviation and marine), industrial sectors, consumer and commercial products, and indoor air quality.

Sustainable Development Strategy

On December 13, 2006, Transport Canada tabled its fourth Sustainable Development Strategy in Parliament. *Sustainable Development Strategy 2007–2009* outlines Transport Canada's vision of sustainable development and its action plan for promoting a more sustainable transportation system in Canada. The strategy defines seven strategic challenges and 21 specific commitments for action over the next three years (2007 – 2009). For this strategy, Transport Canada chose to focus on three themes at the heart of sustainable transportation: urban transportation, commercial freight transportation and marine transportation. These themes allowed the department to focus its efforts and make a smaller number of results-oriented commitments.

Transport Canada reports on its progress annually within the *Departmental Performance Report* and in the *Sustainable Development Progress Report*. Both are available on-line at www.tc.gc.ca/publications/en/menu.htm and www.tc.gc.ca/SDS, respectively.

Surface Transportation

Intelligent Speed Adaptation

As excessive speed impacts not only safety but also GHG emissions, Transport Canada is conducting a research program on the effectiveness of Intelligent Speed Adaptation (ISA) in maintaining vehicle speeds in traffic. ISA refers to a system that can help drivers comply with the posted speed limit. Feedback is provided to the driver if the speed limit is exceeded. The work is investigating the technical feasibility, efficiency and emission benefits, potential safety, driver attitudes and behaviours, and acceptability. Work is also being undertaken to evaluate the effectiveness of real-time fuel cost/consumption display in influencing speed choice and behaviours and, consequently, fuel use.

Transport Canada is also working with the provincial and territorial governments to review the issues concerning mandating speed limiters for trucks set at 105 km/h and mandating electronic on-board recorders.

Transport Canada Urban Programs

Transport Canada administers two programs that encourage the implementation of sustainable transportation options in Canadian cities and communities: The Urban Transportation Showcase Program (UTSP) and the Moving On Sustainable Transportation (MOST) program. These programs help municipal and non-profit partners test and implement cost-effective transportation strategies. The benefits of these programs support important policy objectives for the transportation system in Canada, such as air emission and smog reduction, congestion relief and improved health.

The UTSP funds, in partnership with provinces and municipalities, integrated urban transportation "showcase" projects that demonstrate, evaluate and promote cost-effective strategies for reducing GHG emissions. In 2006, five municipalities continued to implement their UTSP demonstration projects: Halifax, Region of Waterloo, Toronto–Hamilton, Whitehorse and Greater Vancouver. In November, the UTSP project in the City of Winnipeg was launched. Showcase projects in Gatineau and Quebec City were announced in February 2007, and are expected to begin in 2007. For more information on all the UTSP showcases, visit www.tc.gc.ca/utsp/.

The MOST program funds innovative, community-based sustainable transportation projects. Five new MOST projects totalling $110,000 were approved for funding in 2006, for a total of 34 ongoing projects during the course of the year. These projects represent a wide variety of initiatives, ranging from supporting non-motorized delivery services to studying the effects of infrastructure on cyclists. An annual review provided results and information on the 13 completed projects. For more information on MOST projects, visit www.tc.gc.ca/ most.

Transit tax credit

In Budget 2006, the Government of Canada announced that, beginning on July 1, 2006, individuals would be able to take advantage of a non-refundable tax credit to cover the cost of purchasing a monthly (or longer duration) pass for commuting on buses, streetcars, subways, commuter trains and local ferries. This new initiative will have a positive impact on managing transportation demand as well as saving transit users about $150 per year.

Urban Transportation Emissions Calculator

Transport Canada has developed an Internet-based tool (Urban Transportation Emissions Calculator) for urban transportation professionals to calculate direct (e.g. tailpipe) and indirect (e.g. emissions from the production of electricity) transportation-related emissions, including GHGs and criteria air contaminants. This tool allows municipalities to plan and report transport-related emissions in a more standardized manner.

Transport Canada Freight Programs

The Freight Efficiency and Technology Initiative (FETI) is a five-year program that aims to reduce the growth of GHG emissions from freight transportation. This initiative is administered by Transport Canada with support from Natural Resources Canada. Under this initiative, in 2006, the Freight Sustainability Demonstration Program allocated approximately $2.5 million for 12 new demonstration projects that demonstrate and encourage the use of innovative technologies and efficient best practices within the freight transportation sector. This brings the total to $4.1 million for 30 projects. Eight projects have been completed to date, with the remaining 22 wrapping up by 2007.

In addition, Transport Canada, Environment Canada and the Railway Association of Canada have negotiated a Memorandum of Understanding to voluntarily reduce rail GHG and criteria contaminant emissions. This agreement is expected to help align Canadian locomotive emissions for Class 1 freight railroads with the United States' *Environmental Protection Act* standards by encouraging the purchase of cleaner locomotives and the endorsement of best practices. The MOU will also ensure that railways continue to improve their GHG emissions performance between now and 2010.

Furthermore, in 2006, Transport Canada and the International Civil Aviation Organization jointly sponsored a workshop on Aviation Operational Measures for Fuel and Emissions Reductions.

The Freight Efficiency Program is a four-year effort, administered by Transport Canada, to reduce GHG emissions from the transportation sector. This program is complementary to FETI and has two components: the Freight Incentives Program and the Shipper Awareness Program. The Freight Incentives Program funds cost-shared projects to purchase and install new, proven technologies that increase energy efficiency and reduce emissions in the rail, marine and air freight industries. Transport Canada did not select new projects for funding in 2006, in recognition of the fact that it would have been difficult tor funding recipients to successfully complete their projects by the end of the program in March 2007. One project has been completed to date, with the remaining eight to wrap up by 2007. The Shipper Awareness Program enhances the understanding of

shippers, freight forwarders, transportation brokers and logistics service providers of the environmental impacts of their transportation decisions, as well as improves their uptake of transportation alternatives available to them to reduce GHG emissions. In 2006, Transport Canada and Supply Chain and Logistics Canada (SCL) sponsored a fall symposia across Canada and commissioned a study entitled "Literature Review of Emission Reducing Technologies and Best Practices for Shippers," which was presented at the symposia.

Marine Transportation

Water Quality

The proposed regulations for the Prevention of Pollution from Ships and for Dangerous Chemicals were published in the *Canada Gazette Part I* in June 2006. The proposed regulations would amalgamate current requirements and introduce a number of new provisions, in particular ones that would implement Annex IV (sewage), Annex V (garbage) and Annex VI (air emissions) of the International Convention for the Prevention of Pollution from Ships (MARPOL) and the International Convention on the Control of Harmful Anti-fouling Systems on Ships. Adoption of these provisions would then put Canada in a position to sign on to these important international conventions.

Transport Canada's Ballast Water Control and Management Regulations were proclaimed on June 28, 2006. All vessels subject to the regulations are required to carry onboard ballast water management plans as of December 8, 2006. These regulations require ships coming to Canada that discharge ballast in our waters to properly manage their ballast water, including residual ballast water, in order to reduce the risk of ships unintentionally introducing harmful aquatic organisms or pathogens.

National Aerial Surveillance Program

Transport Canada keeps a watchful eye over ships transiting Canadian waters through its National Aerial Surveillance Program (NASP). The NASP is the primary tool for detecting ship-source pollution in waters under Canadian jurisdiction. During 2005/06, Transport Canada acquired a second maritime surveillance system that will enable surveillance aircraft to cover a much broader area than before, day or night, and in more challenging weather conditions on Canada's west coast. The acquisition and installation of the Maritime Surveillance System 6000 (MSS 6000) represents an investment of $4.6 million. This system coupled with the existing RADARSAT satellite system will act as a great deterrent to polluters. Currently, through a partnership with Environment Canada's Integrated Satellite Tracking of Polluter's (I-STOP) program, Transport Canada uses RADARSAT images to look for oil spills on the ocean's surface. In 2005/06, Transport Canada spent $300,000 on RADARSAT imagery as part of the I-STOP project and acquired 971 images, 25 per cent more than the previous year. Also in 2005/06, Transport Canada conducted over 1,548 dedicated pollution patrol hours (a new record for the NASP), detected 78 pollution incidents and flew over 9,724 vessels during dedicated pollution surveillance patrols.

Environmental Management

Various initiatives around Canada are involved in managing our interaction with our environment. These range from Environmental Management Systems, environmental assessments, and integrating environmental and community knowledge into accurate and responsible decision making.

Environmental Management Systems

Transport Canada is responsible for managing its lands and facilities in an environmentally responsible manner. Transport Canada has adopted an Environmental Management System (EMS), an approach that has been used by governments and private companies around the world to ensure environmentally sound practices and minimize liability. Transport Canada promotes compliance with environmental laws and federal government policies in its day-to-day operations, with a strong focus on bringing and maintaining its activities in line with federal policies and best practices. Transport Canada is responsible for a wide range of operations and approximately 847 properties, including fleets of aircraft and vehicles, as well as stores, warehouses and offices in central and remote sites across the country. Although Transport Canada no longer directly operates many components of the transportation system, it retains the role of landlord and manager for major components of the system, including the National Airports System. In this role, Transport Canada is responsible for ensuring appropriate stewardship of its lands and facilities.

Environmental Evaluation and Mitigation

The federal government's 2004 Budget committed $3.5 billion over 10 years to accelerate the clean up of contaminated sites for which the Government of Canada is responsible. The Federal Contaminated Sites Accelerated Action Plan (FCSAAP) was established to accelerate action and reduce federal financial liabilities related to high-risk sites. Key elements include a

completed inventory and ranking of sites, along with accelerated action on those sites posing the greatest risks to human health and the environment. In 2005/06, Transport Canada spent $30.7 million on the assessment and remediation / risk management of contaminated sites, including $13.9 million in funding from the FCSAAP.

Transport Canada's regional offices have important responsibilities with respect to contaminated sites and environmental monitoring. For example, in 2005/06, Quebec Region handled 12 contaminated site rehabilitation projects worth $4.39 million and invested almost $83,000 in environmental monitoring at seven airport and port sites. The Atlantic Region has undertaken significant remediation work in St. Alban's, Newfoundland and Labrador, at a Former Helicopter Base following the findings of a 1997/98 Environmental Baseline Study. The remediation project was completed in the fall of 2006. The environmental benefits included reduction of GHGs and site remediation; the economic benefits were the cost savings to Transport Canada; and the social benefits were the provision of much needed employment to the community.

Supreme Court Decisions on the Federal Government's Obligations to Conduct Aboriginal Consultations

For Transport Canada infrastructure projects, the majority of consultations with Aboriginal groups in recent years were conducted as part of environmental assessments. However, the latest Supreme Court decisions describe the federal government's duty to consult and go beyond the *Canadian Environmental Assessment Act*'s existing provisions for consultation. For example, the Taku River, Haïda Nation and, most recently, the Mikisew Cree decisions require that the federal government undertake a more extensive analysis that deals with a wider range of Aboriginal rights. These decisions specify that the federal government's duty to consult arises when "the Crown has knowledge, real or constructive, of the potential existence of the Aboriginal right or title and contemplates conduct that might adversely affect it."[1] As a result, Transport Canada has created a centre of expertise on Aboriginal consultations to provide support, guidelines and information to Transport Canada officials working on projects related to transportation infrastructure. This will ensure that Transport Canada coherently and appropriately fulfills the Crown's duty to consult Aboriginals.

Great Lakes–St. Lawrence Seaway Emissions Study

The Great Lakes–St. Lawrence Seaway (GLSLS) Emissions Study is a joint Canada–U.S. effort to evaluate the future infrastructure needs of the GLSLS. The GLSLS is aging, and its maintenance and rehabilitation costs are projected to rise at an ever-increasing pace. In order for governments to effectively develop policies affecting the future of this transportation system, it is necessary to complete an assessment of the current state of the GLSLS economic, engineering and environmental factors and conditions as they pertain to commercial marine navigation and the transportation infrastructure on which it depends.

The following agencies are involved with this initiative: Transport Canada, U.S. Army Corps of Engineers, U.S. Department of Transportation, Environment Canada, U.S. Fish and Wildlife Service, the St. Lawrence Seaway Management Corporation (Canada) and the Saint Lawrence Seaway Development Corporation (United States). The primary purpose of the GLSLS is to give decision makers information regarding the expected environmental effects of the maintenance alternatives being considered to keep the GLSLS system operational through to 2060. The study is viewed as preliminary since this work does not represent an environmental assessment as required by the *Canadian Environmental Assessment Act* or the *US National Environmental Policy Act*.

Provincial Initiatives

New Brunswick

In 2006, the province of New Brunswick made significant strides in improving the fuel efficiency of its transportation system. Key highlights include:

- The federal investment of $1.9 million under the Canada–New Brunswick Agreement on Public Transit to improve Fredericton's public transit system. The agreement includes a five-year capital investment plan in which the City of Fredericton will purchase 14 new buses and one Paratransit bus. These new buses will all be low-emission and wheelchair accessible, which will reduce the average age of the city's bus fleet from nearly 16 years to 10 years. Through this project, ridership is projected to increase by 50,000 and GHGs will be reduced by 250 Mt by 2010. The city also plans to expand its maintenance facility to accommodate the larger fleet.

1 Haida Nation v. British Columbia (Minister of Forests), 2004 SCC 73, [2004] 3 S.C.R. 511

- The implementation of a new green vehicle policy by the New Brunswick government. The policy is expected to make the government fleet more fuel-efficient and reduce GHGs. The green vehicle policy is part of the government's commitment to environmental sustainability outlined in the *Charter for Change* and impacts all new vehicles purchased through and maintained by the Department of Transportation's Vehicle Management Agency, including vehicles driven by ministers and deputy ministers.

Nova Scotia

In 2006, the province of Nova Scotia has also made significant progress in updating its public transit system and assessing the sustainability of the transportation system. Key highlights include:

- A Government of Canada investment of $37.5 million will allow improvements in 11 public transit systems to be made in Nova Scotia. Eligible capital investments may include the purchase of buses and accessible transit vehicles, the construction of new terminals and maintenance facilities, and the acquisition of improved computerized systems for transit services. The funds include over $11.7 million from the Canada–Nova Scotia Agreement on the Transfer of Federal Public Transit Funds and $25.8 million to Nova Scotia through the federal Public Transit Capital Trust. These investments will help reduce traffic congestion and improve air quality, as well as help to reduce CO_2 and other GHG emissions. Transit services that will benefit from this funding include the Metro Transit in the Halifax Regional Municipality, Cape Breton Transit, Kings Transit (including Kings County and surrounding area) and eight other community transit organizations.
- The completion of a comprehensive (560-page) report to assess the sustainability of the transportation system using 20 key indicators and numerous sub-indicators. The study completed by GPI Atlantic examined 15 different cost categories to assess the true cost of passenger road transportation in Nova Scotia. The study provides recommendations for making transportation more efficient, affordable and sustainable. For more information on the report, *GPI Transportation Accounts: Sustainable Transportation for Nova Scotia – Measuring Sustainable Development, Application of the Genuine Progress Index to Nova Scotia*, see http://www.gpiatlantic.org.

Ontario

In 2006, the Ontario Ministry of Transportation made important progress toward easing congestion, reducing emissions and expanding mobility options to benefit all Ontarians. Key highlights include:

- Launching the third year of Ontario's investment of two cents per litre of the existing provincial gas tax to provide $313 million in 2006/07 for 86 public transit systems in 104 communities across Ontario. Public transit ridership was up by 23 million passenger trips across the province from 2004 to 2005, the equivalent of removing 19 million car trips from our roads.
- Passing legislation to create the Greater Toronto Transportation Authority, which will develop an integrated transportation plan for transit and major roads in the Greater Toronto Area and Hamilton, one the fastest growing regions in North America.
- Awarding the contract to build and operate the Greater Toronto Area Fare Card System, a seamless, secure and cost-effective transit fare collection system that will help riders travel across nine different transit systems from Hamilton to Oshawa.
- Celebrating the one-year anniversary of the first provincial High Occupancy Vehicle (HOV) lanes on highways 403 and 404. Results show that nearly 40 per cent of commuters are now carpooling on these highways in morning peak hours, compared with less than 20 per cent before HOV lanes opening.
- Initiating three pilot projects for alternative vehicles — electric bicycles, low-speed electric vehicles and Segway® Personal Transporters — that reduce pollution and energy use and can encourage people to leave their cars at home.

Manitoba

In 2006, the province of Manitoba and its partners initiated several projects that assisted their efforts to improve the safety, efficiency and environmental sustainability of the transportation system. Key highlights include:

- Manitoba Infrastructure and Transportation (MIT) work in bringing its road salt management activities into full compliance with Environment Canada's voluntary guidelines by completing the construction of impermeable salt storage sheds.
- The development of a partnership between MIT and the Prairie Adaptation Research Collaborative to analyze temperature trends affecting the provincial winter road network. The provincial winter road system serves approximately 38,000 Manitobans in 28 communities

not served by permanent roads. The work also included the development of a climate change impact adaptation strategy to relocate winter roads away from lakes and rivers to the extent that over 90 per cent of Manitoba's 2,300-kilometre winter road system is now on land-based alignments.

- In 2005 – 2006, MIT in partnership with Natural Resources Canada and the Fleet Vehicles Agency (FVA) initiated the construction of an E85 refueling station and a fuel procurement and rebate program for provincial fleet vehicles. This project included a commitment to maintain ethanol (E10) purchases at 20 per cent of the total fuel consumed by the department's vehicles.
- Two Special Operating Agencies (FVA and Materials Distribution Agency (MDA)) reporting to the provincial Minister of Infrastructure and Transportation have played a prominent leadership role in influencing sustainable principles in the areas of vehicle, fuel and commodity purchases. The MDA offers its clients "Green Choice" products made with environmentally friendly materials and/or processes. At the time of this report, MDA was offering 206 Green Choice products. The FVA works with government departments to ensure that the impact on the environment is considered when choosing fleet vehicles. The FVA promotes Fit for Purposes or Right Vehicle for the Job when departments are replacing vehicles. The provincial fleet now includes 203 alternative and flexible fuel vehicles.

Alberta

In 2006, a number of transportation-related initiatives established by the province of Alberta are worth noting. Key highlights include:

- The Automated Vehicle Identification (AVI) initiative was introduced to continue the Intelligent Transportation System (ITS) objective of reducing environmental impacts while meeting the service needs of commercial carriers. The AVI allows commercial vehicles with a preclearance status to bypass inspection stations and reap the benefits of electronic technologies through savings in travel time, fuel and emissions. Alberta Infrastructure and Transportation has installed AVI technologies at 12 vehicle inspection stations on major highways across the province. This project is being cost-shared with Transport Canada under the ITS component of Transport Canada's Strategic Highway Infrastructure Program.
- A $239 million investment in Alberta's bio-energy sector. This initiative will make the province a leader in producing renewable energy from organic materials. This investment will be provided over the next five years and will fund a Renewable Energy Producer Credit program and a program to support technology investment in the province. For more information, visit http://www.gov.ab.ca/home/index.cfm?page=1508.
- The initiation of a Roadside Optical Vehicle Emission Reporting (ROVER II) project by the Clean Air Strategic Alliance – Vehicle Emission Team (CASA VET), co-funded by the Alberta Government and other CASA partners in 2006. The first ROVER project conducted in 1998 found that about 10 per cent of vehicles (typically the oldest) accounted for over half of emissions and led to the initiation of the Breathe Easy vehicle scrappage program pilot, which pointed to the viability of ongoing scrappage programs in Alberta. The ROVER II project used the latest in remote sensing technology to test over 50,000 vehicles in Edmonton, Calgary, Red Deer and Canmore in September and October, 2006. The project report and recommendations are expected in mid-2007. Detailed project information is available at http://www.casahome.org/?page_id=116.
- The initiation of a Hybrid Taxi Pilot project led by Climate Change Central and co-funded by the Alberta Government from December 2005 to March 2006, which provides incentives to participating taxi owners to purchase hybrid vehicles. This project aims to reduce GHG emissions and smog from Alberta's heavily travelled taxis. The impact of advancing to hybrid technology is found to be significant, with reductions of up to 21 tonnes of GHG emissions in certain hybrid models per annum. Details can be found at http://www.hailahybrid.ca/.

Municipal/Other Initiatives

Sustainable Transportation Planning

In 2006, the Transportation Association of Canada (TAC) Sustainable Transportation Standing Committee completed a project on Strategies for Sustainable Transportation Planning. This project was funded by Transport Canada and involved research into the state of practice and future directions for sustainable transportation planning in Canadian urban areas, as well as six workshops held across Canada to gather insights from a range of practitioners. Twelve principles and 49 suggested strategies were identified and described to help promote more sustainable transportation planning. The results of this work are summarized in a TAC briefing to be distributed to practitioners across Canada. A background research report is also available on Transport Canada's Urban Transportation Showcase Web site at www.tc.gc.ca/utsp/.

RAIL TRANSPORTATION 6

Rail freight traffic between Canada and the United States increased in 2006, by 2.7 per cent for exports and five per cent for imports.

MAJOR EVENTS IN 2006

Canadian National Railway (CN) continued to acquire more railways in 2006, including Rail America's Lakeland & Waterways, MacKenzie Northern and Central Western railways. In doing so, CN increased its operations by approximately 1,200 kilometres of track.

In the summer of 2006, Rail America's Esquimalt & Nanaimo Railway (E&N) operations on Vancouver Island were transferred to Southern Railway of BC (SRY). This left the Island Corridor Foundation (ICF) the majority owner of the track on the Vancouver Island, after Canadian Pacific Railway (CPR) had donated its portion of the former E&N line to the ICF just a few months earlier.

In 2006, overall employment in the railway industry continued to decline, though by much less than it had over the previous 15 years, while rail output continued to increase.

INFRASTRUCTURE

The structure of Canada's rail system remained relatively stable in 2006. In British Columbia and Ontario, however, CPR and CN discontinued 108 route-kilometres of track. CPR transferred 209 route-kilometres of its Willingdon subdivision to the Province of Alberta.

Operations of OmniTRAX (Carlton Trail Railway in Arborfield, Saskatchewan, and Hudson Bay Railway in Sheridon, Manitoba) were transferred to the newly formed railways Thunder Rail and Keewatin Railway, respectively.

Other rationalization activity included 1,131 route-kilometres of Rail America operations in Alberta transferred to CN; a portion of CSX Transportation's Sarnia subdivision transferred to CN as the Sarnia Spur; and SRY taking over operations of the E&N line as the Southern Railway Vancouver Island Limited.

Table 6-1 shows the distribution of trackage by key carriers and carrier groups in 2006.

TABLE 6-1: RAILWAYS IN CANADA, 2006

	2006 Owned / Leased Route-kilometres	*2005 Owned / Leased Route-kilometres*	*Per cent of total (2006)*	*Percentage change over previous year*
CN Rail [CN]	22,686	21,631	47.2	4.9
CP Rail [CPR]	12,812	13,129	26.7	(2.4)
Regional and Shortline Railways	11,734	12,871	24.4	(8.8)
All Others[1]	835	835	1.7	0.0
Total	**48,068**	**48,467**		**(0.8)**

Notes: By definition, route-kilometres do not include parallel trackage, spurs, sidings and yard trackage.
Totals may not add up due to rounding.

1 Terminal and switching railways, Canadian subsidiaries of U.S. railroads and passenger railways.

Source: Transport Canada

The formation of shortline railways exploded after the *Canada Transportation Act 1996* came into force, with 37 new shortlines forming between 1996 and 2000. Only a few new shortlines have been created since then, however, and several have been transferred back to Class I railways. This has resulted in a slight reduction in the total number of railways in recent years. It is probable that more transfers will occur in coming years, but it is unlikely they will do so at the same rate as in the 1990s.

Most of the approximately 10,000 kilometres of rail line discontinued between 1990 and 2006 were divided fairly equally between CN and CPR. Ontario has experienced the most discontinuance of rail track, followed by Saskatchewan, Alberta and Quebec. While transfers in the past typically occurred from CN or CPR to shortlines, in recent years track has been transferred among shortlines, as well as from regional carriers and shortlines to CN.

Table 6-2 shows rationalization activity in the rail sector in 2006 and from 1990 to 2006.

TABLE 6-2: RAILWAY RATIONALIZATION IN CANADA

		2006 Rationalization	*1990 – 2006 Rationalization*
Discontinuances	CPR	26	4,688
	CN	82	4,313
	Other		1,065
	Total	**108**	**10,066**
Transfers	CPR	209	4,191
	CN		7,983
	Other	1,765	7,064
	Total	**1,974**	**19,238**
Total	CPR	235	8,879
	CN	82	12,296
	Other	1,765	8,128
	Total	**2,082**	**29,304**

Note: Totals may not add up due to rounding.
Source: Transport Canada

Since 1990, 29,304 kilometres of line have been rationalized, significantly changing the structure of Canada's rail industry. While CN and CPR remain the dominant carriers, accounting for about 93 per cent of industry activity and revenues, they operate about 74 per cent of the total domestic rail network instead of the 90 per cent they operated a decade ago.

Addendum tables A6-1 and A6-2 provide further details of railway rationalization in Canada by province.

INDUSTRY STRUCTURE

In the 1990s, the number of rail carriers more than doubled. This dramatically altered the character of the industry. Nonetheless, CN and CPR continued to account for the bulk of rail industry revenues. The rail industry generated revenues of $9.8 billion in 2005, a significant increase over 2004. The Class I carriers, namely CN, CPR and VIA Rail, experienced their biggest share of industry revenues over the 16-year period from 1990 to 2005, collectively generating 93 per cent of the industry's total revenues. Their share had hovered just below 90 per cent since 1997. This is partly due to CN's takeover of BC Rail, which has also reduced the regional sector's proportions in 2005, from a 5.3 per cent share to a 2.5 per cent share of industry revenues. Shortline revenues grew significantly over the same period, from $95 million in 1990 to $455 million in 2005, and this sector's proportion of rail industry revenues grew from 1.5 to 5.0 per cent.

Table 6-3 compares revenues in the railway sector in 2004 and 2005. Addendum Table A6-3 shows revenues since 1990.

TABLE 6-3: RAILWAY REVENUES, 2004 AND 2005

(Millions of dollars)

	2004	*2005*
CN	4,275	4,950
CPR	3,263	3,723
VIA Rail	421	430
Subtotal Class I	**7,959**	**9,103**
Regional	451	235
Shortlines[1]	444	455
Total	**8,854**	**9,793**

1 Estimated for several carriers.
Source: Transport Canada, Statistics Canada

VIA Rail remains the dominant choice for intercity passenger rail travel, accounting for almost 94 per cent of total passenger revenues in 2005. The balance of intercity rail passenger services is provided by CN (former Algoma Central Railway services), Ontario Northland and the Quebec North Shore & Labrador. Seasonal and tourist operations in Canada include The Great Canadian Railtour Company, Alberta Prairie Railway Excursion, White Pass & Yukon, the Hull–Chelsea–Wakefield Railway and Prairie Dog Central. Amtrak, an American corporation, offers service to Montreal, Vancouver and Toronto (the latter in conjunction with VIA Rail).

EMPLOYMENT

Over the past 15 years, employment in the rail sector has declined significantly, from more than 67,000 employees in 1990 to about 35,000 in 2005. This equals an average 4.3 per cent decrease per year. At 1.7 per cent, the decline was not as significant in 2005 as in previous years. Employment for Class I carriers dropped from 61,000 employees to 31,500, or 4.3 per cent per year over the period, but it increased slightly from 2004 to 2005. Employment at regional carriers fell 9.4 per cent per year, from 5,600 employees to just below 1,300 in 2005. This was due in part to CN's takeover of Algoma Central Railway and BC Rail. By contrast, employment at shortline carriers increased 9.3 per cent per year, from 550 employees to just over 2,100. The relative levels of employment in each class of carrier are consistent with these changes. From 1990 to 2001, the Class I carriers dropped from 91 per cent to 86 per cent of total rail industry employment, then increased slightly to almost 91 per cent in 2005. After a healthy and steady share in the late 1990s at nine per cent, the regional carriers dropped to just 3.7 per cent of industry employment in 2005. As would be expected, shortline employment grew from a virtually non-existent proportion to 6.1 per cent of total rail industry employment in 2005, marking the first year that this sector's share exceeded that of the regional sector.

Table 6-4 compares the level of employment in the rail industry in 2004 and 2005. Addendum Table A6-4 shows further details.

TABLE 6-4: EMPLOYMENT IN THE RAIL INDUSTRY, 2004 AND 2005

	2004	*2005*
Class 1	30,966	31,526
Regional[1]	2,550	1,295
Shortline[1]	2,072	2,136
Total	**35,588**	**34,957**

Note: Totals may not add up due to rounding.
1 Estimated for several carriers.

Source: Transport Canada, Statistics Canada

ENERGY

Class I carriers, including VIA Rail, significantly increased their fuel efficiency from 1990 to 2005. This can be explained by comparing fuel consumption and output. As Addendum Table A6-5 shows, fuel consumption by Class I railways, accounting for 92 per cent of total sector fuel consumption in 2005, has not fluctuated substantially since 1990. As Addendum Table A6-6 shows, however, output in terms of revenue tonne-kilometres increased by 46 per cent over the same period, from about 225 billion to 328 billion tonne-kilometres.

Both CN and CPR increased fuel efficiency through important investments in new locomotive replacement programs in the latter half of the 1990s. They also changed operating practices and reduced operations over low-density lines, which for the most part were transferred to other operators.

Table 6-5 compares output in the railway sector in 2004 and 2005, while Table 6-6 compares fuel consumption for the same years.

TABLE 6-5: RAILWAY OUTPUT IN MILLIONS OF REVENUE TONNE-KILOMETRES, 2004 AND 2005

	2004	*2005*
Class 1	313,654.4	328,269.5
Regional[1]	16,857.8	15,220.7
Shortline[1]	7,843.5	8,583.5
Total	**338,355.8**	**352,073.7**

Note: Totals may not add up due to rounding.
1 Estimated for several carriers.

Source: Transport Canada, Statistics Canada

TABLE 6-6: RAILWAY FUEL CONSUMPTION, 2004 AND 2005
(Millions of litres)

	2004	*2005*
Class 1	1,895.1	1,964.7
Regional[1]	103.7	67.0
Shortline[1]	100.5	102.9
Total	**2,099.3**	**2,134.7**

1 Estimated for several carriers.

Source: Transport Canada, Statistics Canada

Both fuel consumption and output of regional railways has been relatively stable until recent years. Regional railways have competed well with Class I railways in terms of fuel efficiency, but in 2005 their efficiency exceeded that of the Class I railways. This is attributed to the extraordinary fuel efficiency of Quebec North Shore & Labrador Railway (QNS&L), as well as BC Rail's having dropped out of scope as a regional carrier. Due to the nature of its operations, the QNS&L has enjoyed fuel efficiency almost double the industry norm.

FREIGHT TRANSPORTATION

From 1990 to 2001, the output of railways operating in Canada generally increased. In 2002, CPR's revenue tonne-kilometres decreased three per cent in 2002, while CN's revenue tonne-kilometres decreased four per cent in 2003. This resulted in little growth in output from 2001 to 2003; however, both railways experienced a 12 per cent increase over the next two years, with CN reaching 183 billion tonne-kilometres and CPR reaching 145 billion tonne-kilometres in 2005.

After an almost seven per cent increase in output from 2003 to 2004, the shortlines experienced another significant increase in 2005, up 9.4 per cent to 8.6 billion tonne-kilometres. However, following a declining trend since 2000, regional railways dropped almost 9.7 per cent to 15.2 billion tonne-kilometres in 2005. Due to these changes, 2005 marks the first year that the shortline sector output has amounted to more than half that of the regional sector.

From 1999 to 2002, the volume of traffic interchanged between Class I and Canadian Class II carriers peaked, nearing 27 million tonnes. After two years of a slight decline, however, this volume fell to 24 million tonnes in 2004 before increasing slightly to 24.9 million tonnes in 2005. These changes are largely due to traffic that is received by Class I carriers from Class II carriers, as this represents about 65 per cent of total interchanged traffic.

Addendum Table A6-7 shows the trend of forwarded and received rail traffic since 1996, while Addendum Table A6-8 shows tonnage originating by railway sector since 1995.

Based on three quarters of data for 2006, CN output is expected to increase to 194 billion tonne-kilometres, while CPR output is expected to decrease to 142 billion tonne-kilometres.

RAIL FREIGHT TRAFFIC — COMMODITIES

Annual rail loadings decreased only slightly to 284 million tonnes in 2006 (not including receipts from U.S. connections). See Addendum Table A6-9 for further details. Volumes in Western Canada remained at 157 million tonnes, while volumes in Eastern Canada decreased 1.4 per cent to 127 million tonnes. The main commodities loaded in Western Canada were grain, coal, forest products and fertilizer materials. Iron ore, other ores and mine products, forest products and intermodal shipments were the main commodities loaded in Eastern Canada.

GRAIN

After a large decline in 2002, grain shipments slowly increased until 2004, then remained steady until an almost 17 per cent increase in 2006 to 31.8 million tonnes. This represents a 19 per cent increase in shipments of wheat and a 14 per cent increase in shipments of other grains.

COAL AND COKE

After a seven-year period of coal and coke shipments steady near 41 million tonnes, they declined in 2002 and again in 2003, to 31.8 million tonnes. Since then, shipments have fluctuated only slightly, up to 35 million tonnes in 2005 but down again to 32.8 million tonnes in 2006.

FOREST PRODUCTS

Shipments of processed forest products have generally been increasing since 1997, when the volume was just over 17 million tonnes. In both 2004 and 2005, significant increases (17 per cent and 12 per cent, respectively) brought the volume loaded to just above 32 million tonnes, where it remained in 2006.

In contrast, shipments of non-processed forest products dropped drastically in 1998, from 24 million tonnes to just below 17 million tonnes. These shipments remained steady until 2002, when they increased slightly to 19 million tonnes. Loadings fluctuated only slightly in the following three years, but another significant decrease (12 per cent) was experienced in 2006, when shipments totalled only 16 million tonnes.

ORES AND MINE PRODUCTS

From 1994 to 1998, shipments of iron ore were steady at an average 37.5 million tonnes. In 2001, they fell to just below 29 million tonnes; they rebounded only slightly in 2002 and 2003 before an iron ore workers strike in 2004 reduced shipments to 28 million tonnes. Iron ore volumes increased by 15 per cent in 2005 and then by five per cent in 2006 to reach 34 million tonnes.

Since 2000, shipments of other ores and mine products have remained steady near 25 million tonnes. In 2006, these shipments decreased only slightly, to 24.9 million tonnes.

Fertilizer Materials

After two years at 30 million tonnes, shipments of fertilizer materials decreased 11.5 per cent in 2006 to 26.6 million tonnes, comparable with volumes during the late 1990s. This change is due mainly to decreased loadings of potash, whereas loadings of sulphur have remained steady for the past three years.

Industrial Products

After reaching a 13-year peak in 2004 at 15.9 million tonnes, shipments of chemicals decreased just four per cent in 2005 to 15.3 million tonnes and increased slightly in 2006 to 15.6 million tonnes. Continuing to increase, shipments of metals rose almost six per cent to 13.5 million tonnes in 2006. For the fourth year in a row, shipments of automobiles and parts decreased, down six per cent to 4.6 million tonnes. Shipments of petroleum products increased from 5.2 million tonnes in 1997 to 14.4 million tonnes in 2003 and have remained at this volume for the past four years.

Intermodal

From 1996 to 2005, CN and CPR intermodal tonnage grew by 12.7 million tonnes, an average annual growth rate of 6.0 per cent. Domestic North American traffic fell slightly in 2004 and 2005, lowering the average annual nine-year growth rate to 5.7 per cent. Since 2002, rail–marine intermodal traffic has increased, resulting in average annual growth rates of 3.8 per cent for rail–marine exports and 8.9 per cent for rail–marine imports over the same nine-year period. Addendum Figure A6-1 shows these intermodal traffic trends. Growth in total rail intermodal volumes was most significant between 1998 and 1999, at 12.6 per cent. From 2004 to 2005, growth was two per cent, reaching 31.0 million tonnes. Figure A6-2 in the Addendum shows the origin and destination of CN and CPR intermodal traffic. Figure A6-3 shows that the share of domestic North American intermodal traffic dropped for the second year in a row, to just 38 per cent, while the share of both rail–marine exports and imports increased.

Addendum Figure A6-4 shows that the market share of containers on flat cars (COFC) continued to increase in 2005, accounting for more than 95 per cent of total rail intermodal volumes. This is a considerable increase from 77 per cent in 1996. The volume of trailers on flat cars (TOFC) decreased again in 2005.

Rail Freight Traffic Between Canada and the United States

Addendum Table A6-10 shows volumes of rail exports and imports by commodity since 1997. In 2006, export rail tonnage totalled 78.0 million tonnes, up 2.7 per cent from 2005. Exports of forest products, the largest commodity group, were down almost four per cent to 28.6 million tonnes, halting the steady increase since 1996. After a significant increase in 2004, chemicals exports remained steady in 2006 at 12.7 million tonnes, while exports of fertilizer materials fell 9.5 per cent to 8.6 million tonnes. Exports of grains were up considerably, by 61 per cent to 5.0 million tonnes, while exports of iron ore were negligible in 2006. For the second year in a row, exports metals increased by 15 per cent, reaching a high of 4.8 million tonnes in 2006.

Addendum Table A6-11 shows the values of rail exports and imports by commodity since 1997. Automotive has consistently been the largest contributor to these totals, and accounted for 43 per cent in 2006. Forest products followed at 16 per cent.

Since 2003, automotive exports have been decreasing, down 7.8 per cent in 2006 to $32.1 billion. The value of forest products exports was up in 2004 and 2005, but fell in 2006 by 12 per cent to $15.5 billion. Although other valuable export commodities of chemicals and metals increased, overall, export value decreased by 1.5 per cent to $75.4 billion.

Although its share is decreasing, Ontario remained the largest contributor to rail export volume and value, originating 23 per cent of export volume (17.9 million tonnes) and 55 per cent of export value ($41.5 billion) in 2006.

Alberta's contribution to rail exports has generally been increasing since 1996. In 2006, it was a very close second in terms of export volume, with a 19.7 per cent share at 15.4 million tonnes. In terms of value, Quebec remains the second largest contributor to rail exports, accounting for 15.9 per cent and originating $12.0 million, a 12 per cent increase from 2005.

The volume of import rail tonnage continued to grow, up five per cent in 2006 to total 25.7 million tonnes. Chemicals accounted for almost 24 per cent of rail imports and increased slightly to 6.1 million tonnes, making it the largest contributor. Automotive surpassed metals as the second largest group in 2003, and continued to increase to 2006, reaching 3.7 million tonnes or 14.2 per cent of total import volume. Metals also increased in 2006, up three per cent to three million tonnes.

Automotive remained the top commodity by import value, accounting for 44.5 per cent of total imports in 2006, at $12.9 billion. Chemicals, the second largest commodity group, has experienced an increase in share since 2003, to 23.5 per cent of total import value in 2006, or $6.8 billion. Addendum tables A6-12 and A6-13 show the volume and value of rail exports by province of origin since 1997.

As Addendum Table A6-14 shows, Ontario cleared 45.5 per cent of imports in 2006, 11.7 million tonnes in total. Alberta and Quebec followed with 17.4 per cent (4.5 million tonnes) and 9.1 per cent (2.3 million tonnes) shares of import volume, respectively. In terms of value, Ontario was also the dominant province of clearance in 2006, with $19.7 billion, a four per cent increase from 2005. This is illustrated in Addendum Table A6-15.

Addendum Tables A6-16 to A6-19 give further details on exports and imports, including major commodities originating from, and cleared in, the provinces mentioned above.

Border Crossing Points

By volume, the main border crossing points for rail exports in 2006 were Fort Frances and Sarnia, both in Ontario. They accounted for 22.4 per cent (17.4 million tonnes) and 15.6 per cent (12.2 million tonnes) of exports, respectively. While exports through Sarnia decreased slightly, those through Fort Frances increased by two million tonnes, or 13 per cent. Forest products and chemicals accounted for 59 per cent of rail export volumes through these locations. See Addendum Table A6-20 for further details.

By value, the main border crossing points for rail exports in 2006 were Sarnia and Windsor, both in Ontario. They accounted for 30.9 per cent ($23.3 billion) and 21.0 per cent ($15.8 billion) of exports, respectively. Automotive products accounted for 66 per cent of rail export value at these locations. See Addendum Table A6-21 for further details.

Sarnia was also the leading port of clearance for import tonnage in 2006, accounting for almost 18 per cent of total rail import volume (4.5 million tonnes). Chemicals accounted for 42 per cent of rail imports cleared there. Other major ports of clearance were Toronto, Edmonton, Montreal and Sault Ste. Marie. See Addendum Table A6-22 for further details.

The value of imports cleared in Sarnia increased 19 per cent in 2006 to $6.4 billion. This large increase, along with a 15 per cent decrease in the value of imports cleared in Windsor, placed Sarnia as the leading border location for rail traffic in 2006. The value of imports cleared in Toronto increased 22.5 per cent, to $4.9 billion, placing it as the second largest port of clearance for 2006. Automotive was the most valuable commodity group cleared at these three locations. Addendum Table A6-23 shows rail imports by value and port of clearance.

Overseas Trade

After a significant jump in 2004, goods carried to and from Canadian ports by Class I railways increased only slightly in 2005, by 3.3 per cent to 101 million tonnes. Traffic in transit between Canada and the United States decreased in 2005; U.S. exports via Canada were down 12 per cent to 2.4 million tonnes and U.S. imports via Canada were down 21 per cent to 2.9 million tonnes. Addendum Table A6-24 shows fluctuations of rail–marine exports and imports since 1996.

Rail–marine exports originating in British Columbia increased by 3.5 per cent in 2005, due mainly to an increase in coal and cereal grains. Exports originating in Saskatchewan and Alberta also increased by 8.5 and 6.0 per cent, respectively. These three provinces accounted for 83 per cent of total rail–marine exports in 2005. Addendum Table A6-25 shows rail–marine exports since 1996 for all provinces of origin and the United States.

Rail–marine exports of coal traffic increased 8.2 per cent in 2005, to 28.9 million tonnes. After a 31 per cent jump in exports of grains in 2004, exports of wheat decreased 6.5 per cent, while exports of other cereal grains increased 20 per cent. This resulted in an overall 2.9 per cent decrease to 17.7 million tonnes in 2005. Fertilizer materials remained steady at 13.4 million tonnes, while other food and agricultural products continued to increase, up 15 per cent to 10.4 million tonnes. Exports of intermodal traffic jumped 27 per cent to 6.3 million tonnes. Addendum Table A6-26 shows rail–marine exports by commodity since 1996.

Rail–marine imports by Class I carriers remained steady near 10.8 million tonnes in 2005. About 91 per cent of these imports, or 9.9 million tonnes, were intermodal.

In 2005, Ontario and Quebec continued as the main provinces of destination of rail–marine imports, at 6.8 million tonnes, or 63 per cent of the total. This represented a nine per cent increase over 2004. After several years of growth, rail–marine imports to the United States decreased by almost 21 per cent, to 2.9 million tonnes, or 26 per cent of the total. Addendum Table A6-27 shows rail–marine imports since 1997 for all provinces of destination and the United States.

Intermodal rail-marine imports continued to grow, up almost ten per cent to 10 million tonnes in 2005. After a substantial jump in 2004, imports of forest products dropped back to typical levels, while chemicals and metals experienced a slight increase. Table A6-28 shows rail–marine imports by commodity since 1997.

PASSENGER TRAFFIC

There were almost 4.3 million intercity rail passengers in 2005, up five per cent from 2004. Total passenger-kilometres increased by about the same proportion, to just below 1.5 billion. VIA Rail carried 4.1 million passengers in 2005 (a 5.4 per cent increase) over a total of 1.4 billion passenger-kilometres (a 4.3 per cent increase). Class II carriers transported 0.17 million passengers (a seven per cent increase) over a total 49 million passenger-kilometres (a 12 per cent increase). Addendum Table A6-29 gives details of intercity rail passenger traffic for Class I and II carriers, including Algoma Central, Ontario Northland and the Quebec North Shore & Labrador Railway.

Since 2002, commuter rail traffic in Toronto, Montreal and Vancouver has been increasing steadily. In 2005, ridership was up 3.2 per cent to 56.3 million passengers. With the exception of Vancouver's West Coast Express in 2003, all three major commuter rail companies (West Coast Express, Toronto's GO Transit and Montreal's Agence Métropolitaine de Montréal) have experienced increases during this period. In 2005, GO Transit carried 70 per cent of commuter rail traffic, comparable with previous years. Addendum Table A6-30 shows total commuter rail ridership since 1994 for these three cities.

PRICE, PRODUCTIVITY AND FINANCIAL PERFORMANCE

RAIL FREIGHT INDUSTRY

In 2005, the freight revenues of CN and CPR operations in Canada grew by 15.1 per cent, the second year in a row of strong revenue growth after weak growth over the 2000 – 2003 period. Rail freight rates increased by an average of 9.8 per cent in 2005, while price increases averaged 2.4 per cent over the 2000 – 2005 period. The price increases can largely be attributed to the introduction of fuel surcharges. Output increased by 4.8 per cent in 2005, with growth in all traffic sectors. Output growth was particularly strong in intermodal services and agricultural shipments (7.3 per cent and 8.6 per cent, respectively), while revenue growth was highest in intermodal shipments and other bulk shipments (16.1 per cent and 21.4 per cent, respectively). In 2005, productivity increased by 2.6 per cent, the tenth consecutive yearly increase. Gains in productivity in the industry have averaged 1.8 per cent a year since 2000. Unit costs in 2005 increased for the first time in five years, for an overall increase of 6.7 per cent. Fuel costs were a large contributor to this increase. The combined operating profit of $2.26 billion for CN and CPR in 2005 was a 31.5 per cent increase over 2004, while the operating ratio (operating expenses as a percentage of operating revenues) declined from 77.2 per cent to 74 per cent. The return on assets of the shortline railways increased to 10.2 per cent in 2005, following a decrease in 2004 (see Table 6-7). Addendum tables A2-61 to A2-64 provide more details on the railway industry.

VIA RAIL

In 2005, VIA Rail's revenues increased by 5.9 per cent, the ninth increase over the past ten years. The increase was attributed to an increase in output (4.1 per cent) and, to a lesser extent, an increase in prices (1.7 per cent). VIA Rail's total factor productivity increased by 2.1 per cent during 2005, while unit costs increased by four per cent. Fuel price increases were the major factor in the unit cost increase. The increase in VIA Rail's overall cost recovery ratio dropped from 48.2 per cent to 47.2 per cent in 2005, due in large part to the increase in expenditures on diesel fuel.

ROAD TRANSPORTATION 7

In 2005, a 7.3 per cent increase in for-hire trucking revenues was reported, as well as a significant increase in the earnings of urban transit operators.

MAJOR EVENTS IN 2006

Legislative And Regulatory Changes

Motor Vehicle Transport Act **(MVTA)** — Parliament passed amendments to the Act, creating a consistent national safety regime for extra-provincial truck and bus operators (motor carriers) in 2001. The provinces and territories, which directly enforce the federal regulations, subsequently took the necessary steps to implement the amended regime.

The federal government also established the Motor Carrier Safety Fitness Certificate Regulations. These provide the framework for provinces and territories to implement the safety rating regime for extra-provincial motor carriers envisaged by the MVTA amendments. The regulations are based on several of the motor carrier safety standards that make up the National Safety Code for Motor Carriers.

The amended regime came into force on January 1, 2006.

Hours of Service Regulations — Revisions to the Federal Hours of Service Regulations for commercial drivers employed by extra-provincial truck and bus operators were published in Part II of the *Canada Gazette* on November 16, 2005. The revisions — following lengthy consultations with the industry, provinces, territories and other stakeholders — provide significantly more opportunity for drivers to rest, and will reduce the maximum daily driving hours in a 24-hour period by 19 per cent, from 16 to 13 hours.

Like the Safety Fitness Certificate Regulations, the amended hours of service rules are based on one of the National Safety Code standards, which also serves as the basis for provincial hours of service regulations.

The revised federal regulations came into force on January 1, 2007.

Bill C-3

On April 24, 2006, the Hon. Lawrence Cannon, Minister of Transport, Infrastructure and Communities, introduced Bill C-3, an Act respecting international bridges and tunnels and making a consequential amendment to another Act (short title: the *International Bridges and Tunnels Act*), in the House of Commons. The Bill was passed in the House on June 22, 2006 and received First Reading in the Senate the same day. The Bill received Third Reading in the Senate on December 13, 2006, and Royal Assent on February 1, 2007.

The Act:

- confirms the federal government's exclusive jurisdiction over international bridges and tunnels;
- requires Governor in Council approval for the construction or alteration of an international bridge or tunnel;
- requires Governor in Council approval for purchasing, operating, or acquiring control of an entity that owns or operates an international bridge or tunnel;
- authorizes the Governor in Council to make regulations regarding the maintenance and repair, operation and use, and security and safety of international bridges and tunnels;
- empowers the Minister to order the owner or operator of an international bridge or tunnel to take any action that the Minister considers appropriate to ensure that it is kept in good condition;
- empowers the Minister to make emergency directions in cases of immediate threats to the security or safety of an international bridge or tunnel; and
- establishes a system of administrative monetary penalties for designated infractions of the proposed legislation.

OTHER ISSUES OF SIGNIFICANCE

New Tax on Income Trusts

Four of the top 10 Canadian for-hire carriers in 2006 were income funds. Consequently, the decision of the federal government to apply a corporate tax to income trusts announced on October 31, 2006 was a matter of considerable interest to the sector. New trusts beginning trading as of November 1, 2006 or later would face the new measures in 2007; existing trusts (case of some Canadian for-hire carriers operating at the time of the announcement) would have a four-year transition period and would not face the new rules until 2011. At the end of 2006, the proposed changes had not yet been enacted.

Bus Industry and Safety Fitness Regime

Extra-provincial bus operators are among those subject to the safety fitness regime created by the amendments to the MVTA that came into force at the beginning of 2006. Bus companies, except for transit operators, will also be subject to the new hours of service regime.

There were few dramatic developments in the regulatory regime for the intercity and charter bus industry in 2006. The one exception was in New Brunswick. In a decision issued March 30, 2006, the Board of Commissioners of Public Utilities of New Brunswick (now NB Energy and Utilities Board) suspended the licence of DRL Coachlines Limited of Newfoundland for a period of six months. (This action followed a similar decision applying to DRL in 2005 issued by the Utility and Review Board of Nova Scotia). DRL was offering chartering services in New Brunswick. The company was found guilty of violating various Acts in transportation.

INFRASTRUCTURE

Road Network

Since the 2005 Transport Canada Annual Report, road length estimates have been based on information obtained from the National Road Network (NRN). The NRN is a detailed digital map of the public road network in Canada developed by Natural Resources Canada. The first national coverage was made available in March 2005 and represented the network as it existed in 2003. It can be downloaded for free at: http://geobase.ca/geobase/en/search.do?produit=nrnc1&language=en.

The advantages of using the NRN as opposed to the source used in the past are:

- The NRN covers only the public road network in Canada making it more consistent with historical estimates of road length.
- The map is a non-proprietary source making it easier to share, upgrade and enhance.
- It has an estimate of the number of traffic lanes per road segment so that estimates of lane-kilometres and two-lane equivalent kilometres can be constructed.
- It identifies roads under provincial and local jurisdiction separately.
- The map has information on the type of surface (e.g. paved versus unpaved).

NATIONAL HIGHWAY SYSTEM (NHS)

On September 22, 2005, the Council of Ministers Responsible for Transportation and Highway Safety endorsed the recommendations made by the National Highway System Task Force of a criteria-based National Highway System composed of three categories of route type: Core; Feeder; and, Northern and Remote. As a result of this decision, the NHS encompasses 38,021 km of key linkages:

Jurisdiction	*Core Routes*	*Feeder Routes*	*Northern and Remote Routes*	*Total*
Yukon	1,079 km	-	948 km	2,027 km
Northwest Territories	576 km	-	847 km	1,423 km
Nunavut	-	-	-	-
British Columbia	5,861 km	447 km	724 km	7,032 km
Alberta	3,970 km	217 km	197 km	4,384 km
Saskatchewan	2,450 km	-	238 km	2,688 km
Manitoba	982 km	742 km	370 km	2,093 km
Ontario	6,131 km	706 km	-	6,836 km
Quebec	3,448 km	766 km	1,436 km	5,649 km
New Brunswick	993 km	832 km	-	1,825 km
Prince Edward Island	208 km	188 km	-	396 km
Nova Scotia	903 km	296 km	-	1,199 km
Newfoundland and Labrador	1,008 km	298 km	1,163 km	2,469 km
Total	**27,608 km**	**4,490 km**	**5,922 km**	**38,021 km**

Table 7-1 shows that there were over one million two-lane equivalent lane-kilometres of public road in Canada (a lane-kilometre measures the number of lanes of traffic on each section of road; for example, if four lanes of traffic exist on a one-kilometre section of road, there are four lane-kilometres (i.e. four lanes x one kilometre). The same section also represents two kilometres of two-lane equivalent highway (i.e. four lane-kilometres divided by two).

Four provinces — Ontario, Quebec, Saskatchewan, Alberta — account for 75 per cent of the total length. Saskatchewan and Alberta account for half of the unpaved network (which represents three fifths of the total network length) while Ontario and Quebec account for nearly half of the paved network.

INDUSTRY STRUCTURE

TRUCKING INDUSTRY

Trucking plays a significant role in Canada's economy. Goods shipped by truck range from raw materials to components to final products. For-hire carriers, private carriers, owner-operators and courier firms make up the industry. As a whole, the industry generated an estimated $67 billion in revenues in 2005. Trucking firms can be differentiated in a number of ways: the size of their fleet of trucks; the type of equipment they use; the geographic scope of their operations; the type of services they offer; and the type of freight they carry. They can also be differentiated by jurisdiction of operations. Carriers that provide interprovincial or international (extra-provincial) trucking services fall entirely within federal jurisdiction, while carriers that operate solely within a province fall within that province's jurisdiction.

For-hire motor carriers are defined as those that haul freight for others for compensation. They offer either truckload (TL) or less-than-truckload (LTL) services, or a mix of the two. These carriers are further categorized according to the types of freight they carry, such as general freight, household goods, liquid and dry bulk, forest products and other specialized freight. In 2005, there were over 10,000 (approximate) for-hire motor carriers in Canada, compared with 9,900 in 2004.

In 2005, rankings by revenue of the 100 largest for-hire trucking operations[1] in the United States and Canada included six Canadian carriers: TransForce Income Fund (22nd), Montreal, Quebec; Trimac Transportation Services (43rd), Calgary, Alberta; Day and Ross Transportation group (50th), Hartland, New Brunswick; Vitran Corp (60th), Toronto, Ontario; Contrans Income Fund (73rd), Woodstock, Ontario; and Mullen Group Income Fund (95th), Aldersyde, Alberta.

In 2006, based on total number of fleets' units (straight trucks, tractors and trailers), the top 10 for-hire trucking companies[2] in Canada were TransForce Income Fund (15,500 units); Contrans Income Fund (8,380 units); TransX, Winnipeg, Manitoba (4,860 units); SLH Transport, Kingston, Ontario (4,800 units); Challenger Motor Freight, Cambridge, Ontario (4,780 units); Day and Ross Transportation Group, Hartland, New Brunswick (4,186 units); Robert Transport/Groupe Robert, Boucherville, Quebec (3,810 units); Paul's Hauling Group, Winnipeg, Manitoba (3,700 units); Trimac Transportation Services, Calgary, Alberta (3,600 units); and Canada Cartage Diversified Income Fund, Mississauga, Ontario (3,400 units).

TABLE 7-1: LENGTH OF PUBLIC ROAD NETWORK IN CANADA

	Length (two-lane equivalent thousand km)			*Provinces Territories share of total (per cent)*	*Percentage distribution*	
	Paved	*Unpaved*	*Total*		*Paved*	*Unpaved*
Newfoundland and Labrador	10.6	8.6	19.3	1.8	55.2	44.8
Prince Edward Island	4.3	1.8	6.0	0.6	70.8	29.2
Nova Scotia	18.1	9.0	27.1	2.6	66.8	33.2
New Brunswick	19.5	12.0	31.5	3.0	61.9	38.1
Quebec	81.5	63.2	144.7	13.9	56.3	43.7
Ontario	119.8	71.1	191.0	18.3	62.8	37.2
Manitoba	19.3	67.3	86.6	8.3	22.3	77.7
Saskatchewan	29.5	198.7	228.2	21.9	12.9	87.1
Alberta	61.7	164.6	226.3	21.7	27.3	72.7
British Columbia	48.2	22.9	71.1	6.8	67.8	32.2
Yukon	2.2	3.5	5.8	0.6	38.5	61.5
Northwest Territories	0.9	3.6	4.5	0.4	19.2	80.8
Nunavut	-	0.3	0.3	0.0	0.0	100.0
	415.6	**626.7**	**1,042.3**	**100.0**	**39.9**	**60.1**

Note: Estimates are not comparable with figures reported in previous annual reports.

Source: National Road Network (Edition 1.00)

1 Transport Topics, July 24, 2006.

2 Motor Truck, January/February 2007 issue.

The year 2006[3] saw changes in the industry (acquisitions, strategic alliances and mergers of motor carriers). Canada's largest for-hire trucking operation, TransForce Income Fund of Montreal, continued to acquire firms serving the energy sector in Western Canada, including Byers Transportation, an Edmonton-based LTL carrier; Howard Transportation, a specialized carrier based in Alberta; and Westfreight Systems involved in oilfield transportation services. Contrans Income Fund acquired the Saint John-based General Freight Carriers, a flatbed carrier, and Spectrum Transport, a Calgary-based dry bulk carrier. As for the Mullen Group Income Fund, it reported six acquisitions of over $1.2 billion in 2006: four were trucking operations involved in the energy sector (Spearing Service, Burnell Contractors, Canada Dewatering and the Brady Group) while the others were a flat deck carrier and a logistics carrier (Steen and Kleysen).

Owner-operators own and drive their own trucks and operate as small independent for-hire truckers hauling trailers for other carriers or directly for a shipper. By using owner-operators, trucking companies can expand or contract their capacity in response to changing market conditions. There were an estimated 36,000 owner-operators in Canada in 2005, compared with 35,200 in 2004.

Couriers and parcel-delivery firms are considered to be part of trucking activity because they operate trucks and provide some of the same services as for-hire carriers. However, there are relatively few trucks used in the courier industry — approximately 2,200 — as most companies use small cube vans, automobiles and even bicycles for deliveries. Operations include same-day messenger delivery and overnight or later delivery. In 2005, the courier industry generated an estimated $6.4 billion in total revenues, based on average volumes of 2.4 million packages per day. There are approximately 20,000 small courier companies that generate revenues less than $1 million annually. While accounting for 97 per cent of the total number of courier companies, these companies generate only 18 per cent of total courier revenues.

Private trucking is that part of the industry not covered by the for-hire segment. It includes companies that primarily haul their own freight but that occasionally haul goods for others for compensation. The value of these services is captured under some other, non-trucking part of the national accounts (e.g. farming or manufacturing) because these trucks are operated by someone working for an industry other than for-hire trucking. Most companies that haul their own products in trucks they own do not ordinarily record revenues for this operation. At $30.2 billion, the estimate for private trucking is better viewed as the operating costs of trucks for these companies. Caution should be exercised in using this estimated value. To estimate the value of private trucking in 2005, the percentage increases/decreases in the for-hire sector since 1998 were applied to the value of private trucking as calculated in the January 1998 study *Profile of Private Trucking in Canada*.

Other includes that part of the industry using trucks for purposes other than hauling freight commercially. For example, a construction company uses trucks and trailers to transport heavy machinery between job sites. Municipal governments, which use trucks as platforms for specialized equipment such as a garbage packer, tree-trimmer, crane or snowplow, run some of the largest fleets on the road.

In terms of annual business bankruptcies, the number of trucking bankruptcies has steadily decreased in last five years and in 2006 stood at 451, the lowest total since 1998. The number of trucking bankruptcies decreased 20 per cent in 2004, 14 per cent in 2005 and 11 per cent in 2006. These decreases are more pronounced than those observed for other sectors of the economy. Addendum Table A7-1 shows the number of trucking bankruptcies compared with the economy by region from 1990 to 2006.

In terms of revenues, general freight carriers continue to dominate the for-hire sector, accounting for almost 60 per cent of for-hire revenues in 2005. Specialized freight accounted for 17 per cent of total revenues. Table 7-2 compares the revenues of all for-hire trucking firms by the type of freight carried from 2000 to 2005.

Table 7-3 shows total for-hire trucking revenues by size of carrier from 2000 to 2005, as measured by four categories of earned annual revenues: less than $1 million, $1 million to $12 million, $12 million to $25 million, and $25 million or more. Since 1991, total revenues have tripled. Large carriers (earning between $12 million and $25 million), however, have seen the proportion of their revenues increase from 11 per cent in 1991 to 21 per cent in 2000 to almost 28 per cent in 2005. Addendum tables A7-2 and A7-3 show the same information over a longer time series.

Reported sales of Class 8[4] trucks have fluctuated yearly. This has been driven by a number of factors, including the profitability of carriers, the demand for trucking services and carriers' fleet replacement policies. Market conditions tend to drive increases or decreases in the demand for

3 Press release and companies' Web sites.

4 Class 8 includes trucks with a gross vehicle weight exceeding 15,000 kilograms.

TABLE 7-2: FOR-HIRE CARRIER REVENUES BY ACTIVITY SECTOR, 2000 – 2005

(Millions of dollars)

Activity Sector	2000	2003	2005[1]	Share in per cent of total 2000	2003	2005
General freight	12,953	14,407	18,054	58.6	59.3	59.4
Movers	794	597	818	3.6	2.5	2.7
Liquid bulk	1,773	1,719	2,719	8.0	7.1	8.9
Dry bulk	1,557	2,049	2,262	7.0	8.4	7.4
Forest products	1,214	1,093	1,325	5.5	4.5	4.4
Other specialized freight	3,812	4,443	5,214	17.2	18.3	17.2
Total	**22,103**	**24,308**	**30,392**	**100.0**	**100.0**	**100.0**

(Estimated number of carriers)

Activity Sector	2000	2003	2005[1]	Share in per cent of total 2000	2003	2005
General freight	3,248	3,659	4,014	34.9	38.8	39.7
Movers	374	515	551	4.0	5.5	5.5
Liquid bulk	692	750	931	7.4	8.0	9.2
Dry bulk	1,666	1,689	1,793	17.9	17.9	17.7
Forest products	1,252	655	686	13.4	7.0	6.8
Other specialized freight	2,085	2,156	2,131	22.4	22.9	21.1
Total	**9,317**	**9,424**	**10,106**	**100.0**	**100.0**	**100.0**

Note: Including motor for-hire carriers of freight earning annual revenues of $30,000 or more.
1 Small for-hire carriers estimated for 2005.

Sources: Transport Canada, based on Statistics Canada,'Quarterly Motor Carriers of Freight Survey (QMCF) (2000-2005) and Annual Motor Carriers of Freight Survey (small for-hire carriers), Service Bulletin Cat. 50-002

TABLE 7-3: DISTRIBUTION OF TOTAL FOR-HIRE TRUCKING REVENUES BY SIZE OF CARRIERS, 2000 – 2005

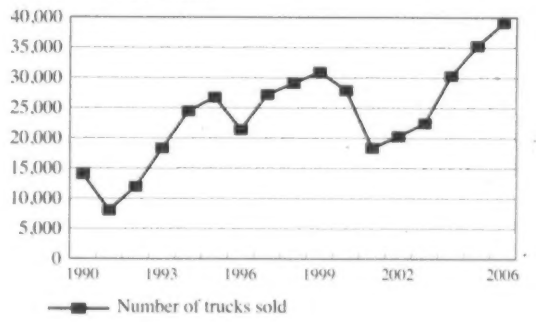
Year	Small Carriers (Less than $1 million) Revenues (Millions of dollars)	Share (per cent of total)	Medium Carriers ($1 – $12 million) Revenues (Millions of dollars)	Share (per cent of total)	Large Carriers ($12 – $25 million) Revenues (Millions of dollars)	Share (per cent of total)	Top Carriers (Over $25 million) Revenues (Millions of dollars)	Share (per cent (of total)	Grand Total Revenues (Millions of dollars)
2000	1,366	6.2	9,514	43.0	4,660	21.1	6,562	29.7	22,103
2001	1,512	6.3	11,277	47.1	4,506	18.8	6,662	27.8	23,958
2002	1,586	6.7	10,073	42.7	5,091	21.6	6,859	29.1	23,609
2003	1,625	6.7	9,896	40.7	5,561	22.9	7,226	29.7	24,308
2004[1]	1,700	6.0	11,939	42.2	7,292	25.7	7,391	26.1	28,322
2005[1]	1,740	5.7	11,864	39.0	8,396	27.6	8,392	27.6	30,392

Note: Including motor for-hire carriers of freight earning annual revenues of $30,000 or more.
1 Small for-hire carriers revenues estimated for 2004 and 2005.

Sources: Transport Canada, based on Statistics Canada, Quarterly Motor Carriers of Freight Survey (QMCF) (2000-2005) and Annual Motor Carriers of Freight Survey (small for-hire carriers), Service Bulletin Cat. 50-002

many trucking services. Swings in these market conditions tend to be exacerbated in the final demand for trucking services. Following the 2001 economic slowdown in both Canada and the United States, truck sales in Canada have increased steadily each year, reaching an all time record of 39,131 vehicles in 2006. Figure 7-1 shows the sales of Class 8 trucks from 1990 to 2006.

FIGURE 7-1: SALES OF CLASS 8 TRUCKS IN CANADA, 1990 – 2006



Source: Canadian Vehicle Manufacturers' Association

Bus Industry

The Canadian bus industry provides a variety of services, and individual operators and corporate owners commonly provide services in several of the recognized categories.[5] This makes it difficult to categorize the service provided the industry as a whole. For example,

5 The North American Industrial Classification System (NAICS) has been used in Canada since 1997. The bus industry is grouped under six headings: urban transit systems; interurban and rural bus transportation (scheduled intercity); school and employee bus transportation; charter bus industry; other ground passenger transportation (shuttle); and scenic/sightseeing transportation.

Laidlaw International Inc. is a major school bus operator while at the same time, as Greyhound, the largest provider of scheduled intercity service in Canada and the United States. Most bus operators in all categories offer some form of charter bus service.

Scheduled Intercity Service — Intercity bus service links all Canadian provinces and territories except Nunavut. Greyhound (and its subsidiaries) is the largest operator in Canada and primarily operates in Ontario and the four western provinces. As noted, it is owned by Laidlaw. In Quebec and the Maritime Provinces, the major service provider is Groupe Orléans, which operates as Orléans Express in Quebec and Acadian in the Maritimes. There are also a number of smaller regional and local carriers, particularly in Quebec.

Charter, Tour, Shuttle and Other Commercial Services — A wide range of other bus services is also available in Canada. Charter and tour operators primarily serve the discretionary travel market. One of the most common forms of shuttle busing is airport service. In addition, some commercial carriers provide contracting busing, that is, regular service to a particular group such as workplace travel paid for by the employer. Some of the larger companies provide all these services and others besides, the most prominent example being Pacific Western Transportation Ltd. Others concentrate on the charter/tour market, examples being Brewster Transportation & Tours, and Coach Canada. Pacific Western and Coach Canada also offer scheduled service in Alberta and Ontario, respectively.

School Service — As the name implies, school bus carriers provide bus service to transport students to and from school. In some instances, the service is provided directly by the school administration, but most commonly in Canada, school bus service is contracted to private operators. Besides Laidlaw, the larger school bus operators include First Bus, Pacific Western and Stock Transportation. Most school bus operators also provide some charter service.

Urban Transit Service — Transit service is available in over 90 cities, towns, regional municipalities and other urban entities in all Canadian provinces and two of the territories. Over 20 million Canadians, using buses, coaches, trolleys, street cars, light rail, heavy rail, and even vans and taxis, make use of these services each year. Some urban transit operators offer school bus and charter services and dedicated services to persons with disabilities.

Bus Transportation

In Canada, approximately 1,500 bus operators move more than 1.5 billion passengers each year. In 2005, the Canadian bus industry generated an estimated[6] $8.5 billion in total revenues, including government operating and capital contributions. This industry can be looked at either by segment (i.e. by main company activity as classified under NAICS) or by service lines (or service activities) performed.

Bus segments (NAICS) — In 2005, urban transit was once again the largest segment, capturing almost 70 per cent of total industry revenues including government contributions (or 49 per cent of total revenues excluding government contributions). Operating and capital contributions from governments accounted for 56 per cent of urban transit operators' total revenue. Urban transit operators are typically dedicated to transit operations, with only a fraction of their revenues coming from other service lines.

The school bus segment was the second largest segment, capturing around 25 per cent of total bus revenues (excluding government contributions). Intercity operators and charter/tour operators followed. Almost all those operators, regardless of their primary business, provided other service lines, demonstrating the varied nature of the industry.

Service Lines — The industry sectors have been clouded over the past number of years due to industry diversification, mergers and acquisitions, and consolidated reporting. As a result, the "segment" approach is less reliable[7] in evaluating the bus industry, while the "service line" approach gives a better indication of industry activity. Overall, the industry grew from $5.2 billion in 1995 to $8.5 billion in 2005, an average annual growth of five per cent. This growth, however, was unevenly distributed among service lines, averaging between nil growth for "other passenger revenues" and 5.9 per cent for "urban transit" services, followed by "charters, shuttle and sightseeing" services at 5.8 per cent.

6 Estimates of the bus industry revenues by Transport Canada, as Statistics Canada passenger bus and urban transit survey results for 2005 were not released (under revision).

7 For example, from 1995 to 2000, the "segment" approach did not adequately measure the bus industry, as some scheduled intercity carriers were recorded under school bus operators due to consolidated financial reporting coming from mergers and acquisitions. This was one of many factors that triggered the redesign by Statistics Canada of a new passenger bus survey (implemented in 2001) to collect both industry and activity data.

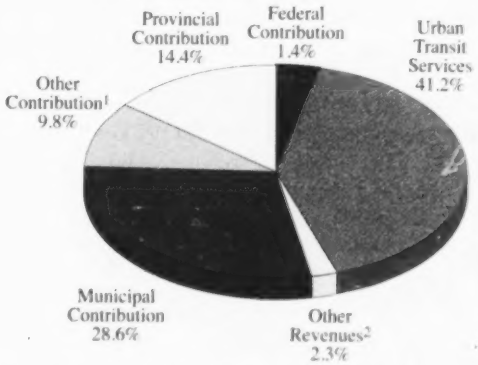
A new bus survey that captured a larger number of companies[8] indicates that service line revenues have been somewhat higher since 2001. Urban transit services (including urban transit operators and other operators offering transit services) carried an estimated 1,720 million passengers in 2005, 2.5 per cent more than in 2004. Transport Canada estimates that intercity services carried 16.0 million passengers in 2005, almost three per cent more than in 2004. Table 7-4 shows bus revenues by service lines from 1995 to 2005. Addendum Table A7-7 shows numbers of passengers carried by the bus industry from 1985 to 2005.

URBAN TRANSIT

In 2005, urban transit operators reported revenues of $6.0 billion, up 15 per cent from 2004. The main source of revenues was once again government contributions, at 56 per cent of the total, followed by urban transit services at 41 per cent. From 1995 to 2005, urban transit systems' operating revenues grew at an average annual rate of 5.4 per cent. Government contributions, however, showed some fluctuations over the period, including a large increase in 2005. As a result, the government contribution's share of total urban transit revenues reached 57 per cent in 2005; this is the same level as in 1995 after decreasing to a proportion of 53 – 54 per cent in early 2000. Addendum Table A7-4 shows revenue services offered by urban transit operators over the 1995 – 2005 period. Figure 7.2 illustrates revenue sources for urban transit operators in 2005.

In the early 1990s, ridership levels on urban transit decreased, reaching a low of 1,353 million passengers in 1996. Since then, with the exception of a small decrease in 2001, ridership has increased steadily, peaking at 1,661 million passengers in 2005. This was the highest level in the last two decades. The distance travelled by urban transit vehicles followed a similar pattern. Vehicle-kilometres jumped from a low of 716.4 million in 1996 to

FIGURE 7-2: TOTAL REVENUES BY SOURCE – URBAN TRANSIT SECTOR, 2005



1 Other contribution includes dedicated taxes, transfers from regional agencies, Reserve Funds.
2 Other revenues include charter, school bus and other passenger bus services.

Source: Transport Canada tabulation, adapted from Canadian Urban Transit Association (CUTA) data.

TABLE 7-4: BUS INDUSTRY REVENUES BY SERVICE LINES, 1995 – 2005

(Millions of dollars)

	1995	*1998*	*2000*	*2001*[1]	*2002*	*2003*	*2004*[2]	*2005*[3]	*Average Annual Growth Rate 1995 – 2005 (Per cent)*
Number of companies	878	1,110	968	1,813	1,715	1,497	1,514	1,510	
Business Lines									
Urban transit services	1,484	1,694	1,956	2,092	2,234	2,346	2,507	2,633	**5.9**
School bus transportation	864	894	964	1,112	1,220	1,201	1,218	1,231	**3.6**
Charters, shuttle & sightseeing services	318	369	449	469	506	513	528	559	**5.8**
Scheduled intercity services	246	240	271	332	329	349	369	378	**4.4**
Other passenger/operating revenues	216	216	225	246	283	218	222	228	**0.5**
Parcels express delivery	79	87	96	98	100	101	105	108	**3.2**
Total (excluding government contributions)	**3,207**	**3,499**	**3,961**	**4,349**	**4,672**	**4,729**	**4,949**	**5,137**	**4.8**
Government contributions[4]	2,036	2,386	2,271	2,355	2,440	2,790	2,747	3,405	**5.3**
Total	**5,243**	**5,885**	**6,231**	**6,703**	**7,112**	**7,519**	**7,695**	**8,542**	**5.0**

1 From 1995 to 2000: Including bus operators with annual revenues greater than $200,000; Starting 2001, a new 'Passenger bus and urban transit' survey was initiated by Statistics Canada covering a greater number of bus companies (no threshold revenues).
2 Preliminary data for 2004.
3 Estimated data by Transport Canada.
4 Including operating and capital government contributions for urban transit.

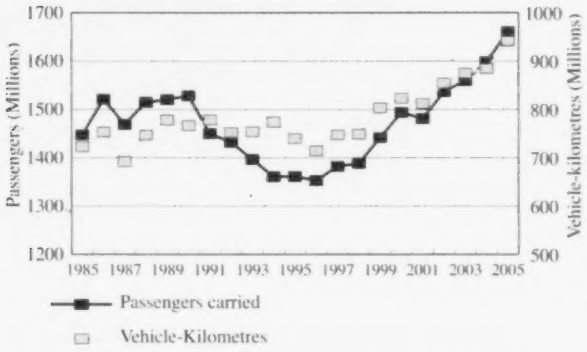
Sources: Transport Canada, adapted from Statistics Canada, Passenger bus and urban transit statistics, Cat. 53-215, and Statistics Canada, Service Bulletin, Cat. 50-002; special tabulation based on NAICS and Canadian Urban Transit Association (CUTA).

8 From 1994 to 2000, the passenger bus and urban transit survey covered companies having annual gross revenues of $200,000 or more. Starting in 2001, however, the new passenger bus survey has covered all companies that have at least one bus establishment engaged in the provision of bus and urban transit services.

943.6 million in 2005, an average annual increase of 2.3 per cent. For ridership and distance data over a longer period, see Table A7-5 in the Addendum. Figure 7-3 illustrates long-term trends in the urban transit sector from 1985 to 2005.

In terms of vehicles, the urban transit fleet increased at an average annual rate of almost two per cent from 1995 to 2005, from 13,140 to 15,580 units. The main change in the fleet composition over this period was the replacement of standard buses by more accessible, low-floor buses, which increased from 305 to 5,952 units. Low-floor motor buses, which represented three per cent of total standard motor buses used by transit authorities in 1995, accounted for 51 per cent of the total standard bus park in 2005. See Addendum Table A7-6 for details on urban transit fleet composition over the 1995 – 2005 period.

FIGURE 7-3: LONG-TERM TREND IN URBAN TRANSIT, 1985 – 2005



Source: Statistics Canada, "Passenger bus and urban transit statistics", Cat. 53-215; special tabulations based on Canadian Urban Transit Association (CUTA) data

PASSENGER TRANSPORTATION

Light Vehicle Fleet and Use

There were 17.9 million light vehicles registered in the ten provinces according to the 2005 Canadian Vehicle Survey. (Survey data refer to in-scope vehicles with a gross weight less than 4,500 kilograms.) Of these, passenger cars and station wagons accounted for 10.3 million, vans for 2.9 million, sport-utility vehicles for 1.4 million and pickup trucks for 3.3 million. As a group, light trucks and vans represented 42 per cent of the light vehicle fleet. As Table 7-5 shows, vans and light trucks were driven eight per cent more on average than passenger cars, amassing 16,700 kilometres per year compared with 15,400 kilometres. Cars and station wagons were driven 159 billion vehicle-kilometres, or about 56 per cent of total vehicle-kilometres. Vans and light trucks were driven 126 billion vehicle-kilometres, or 44 per cent of the total. While cars and station wagons accounted for slightly more light-vehicle passenger-kilometres than vans and light trucks, at 52 per cent compared with 47 per cent, vans and light trucks had higher per vehicle occupancies than passenger cars, at 1.86 persons per light truck or van compared with 1.62 per cars and station wagons.

TABLE 7-5: LIGHT VEHICLE FLEET STATISTICS, 2005

		Light trucks/vans					
	Car / station wagon	*Van*	*Sport-utility*	*Pickup truck*	*Sub-total*	*Other*	*Total light vehicles*
Vehicles (Millions)	10.3	2.9	1.4	3.3	7.6	0.1	17.9
Per cent share	57.5	16.1	7.8	18.2	42.1	0.4	100.0
Vehicle-km (Billions)	159.3	53.5	23.2	49.2	125.9	1.9	287.1
Per cent share	55.5	18.6	8.1	17.1	43.9	0.7	100.0
Passenger-km (Billions)	257.6	111.7	45.0	76.8	233.6	2.5	493.7
Per cent share	52.2	22.6	9.1	15.6	47.3	0.5	100.0
Litres of fuel (Billions)	14.4	6.2	3.0	6.8	16.0	0.2	30.7
Per cent share	47.0	20.3	9.7	22.3	52.3	0.7	100.0
Average distance driven (Thousands of km)	15.4	18.5	16.5	15.0	16.7	27.0	16.0
Persons per vehicle	1.62	2.09	1.94	1.56	1.86	1.32	1.72
Fuel efficiency (L/100km)	9.0	11.6	12.8	13.9	12.7	11.7	10.7

Note: Figures exclude the territories.

Source: Canadian Vehicle Survey, 2005 Annual Averages

There was a wide gap in fuel efficiency between cars and the heavier trucks and vans. Calculated fuel efficiency for cars and station wagons averaged 9.0 L/100 km, about 30 per cent lower than the 12.7 L/100 km for vans and trucks.

With few exceptions, the distribution of light vehicles, vehicle-kilometres and passenger-kilometres by province/territory broadly followed the distribution of population (see Table 7-6). In terms of motorization (number of vehicles per capita), most jurisdictions were near the overall average of 557 vehicles per 1,000 people. The exceptions were Alberta, Saskatchewan and the Yukon, which were 10 per cent higher than the average, and Newfoundland and Labrador, the Northwest Territories and Nunavut, which were at least 13 per cent below the average. Nationally, annual average vehicle use stood at 16,000 kilometres, ranging from a low of 13,800 kilometres in British Columbia to a high of 18,000 in Nova Scotia. (Nunavut averaged less than 9,000 km per year.)

TABLE 7-6: LIGHT VEHICLE STATISTICS BY PROVINCE/TERRITORY, 2005

	Vehicles (Thousands)	*Vehicle-kilometres (Billions)*	*Passenger-kilometres (Billions)*	*Litres of fuel purchased (Billions)*	Averages: *Vehicles per 1,000 population*	*Average distance driven (Thousands)*	*Passengers per vehicle*	*Average fuel efficiency (L/100km)*
Newfoundland and Labrador	249	4.1	7.0	0.4	485	16.7	1.7	10.6
Prince Edward Island	76	1.3	2.2	0.1	551	16.6	1.8	9.7
Nova Scotia	523	9.4	15.4	0.9	558	17.9	1.6	9.9
New Brunswick	436	7.6	14.1	0.8	581	17.4	1.9	10.3
Quebec	4,204	61.2	104.4	6.1	553	14.6	1.7	10.0
Ontario	6,728	115.4	201.1	11.8	536	17.2	1.7	10.2
Manitoba	621	9.3	15.6	1.1	529	15.0	1.7	11.4
Saskatchewan	649	9.7	16.3	1.1	656	14.9	1.7	11.8
Alberta	2,207	38.0	67.4	4.5	673	17.2	1.8	11.9
British Columbia	2,253	31.1	50.3	3.6	529	13.8	1.6	11.4
Yukon	24	0.4	N/A	N/A	769	14.7	N/A	N/A
Northwest Territories	20	0.3	N/A	N/A	476	13.4	N/A	N/A
Nunavut	3	0.03	N/A	N/A	103	8.7	N/A	N/A
Canada	**17,994**	**287.7**	**493.7**	**30.5**	**557**	**16.0**	**1.7**	**10.7**
Percentage distribution								
Newfoundland and Labrador	1.4	1.4	1.4	1.4	87.0	104.2	98.8	100.5
Prince Edward Island	0.4	0.4	0.4	0.4	98.8	103.5	102.1	91.6
Nova Scotia	2.9	3.3	3.1	3.0	100.2	112.2	95.6	93.4
New Brunswick	2.4	2.6	2.9	2.6	104.2	108.6	108.6	97.5
Quebec	23.4	21.3	21.1	20.1	99.3	91.0	99.4	94.4
Ontario	37.4	40.1	40.7	38.8	96.2	107.3	101.5	96.7
Manitoba	3.5	3.2	3.2	3.5	94.9	93.8	97.3	108.0
Saskatchewan	3.6	3.4	3.3	3.7	117.7	93.0	98.3	111.6
Alberta	12.3	13.2	13.6	14.8	120.9	107.7	103.3	111.9
British Columbia	12.5	10.8	10.2	11.6	95.0	86.4	94.2	107.6
Yukon	0.1	0.1	N/A	N/A	138.0	91.8	N/A	N/A
Northwest Territories	0.1	0.1	N/A	N/A	85.5	83.7	N/A	N/A
Nunavut	0.02	0.01	N/A	N/A	18.4	54.5	N/A	N/A
Canada	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Canadian Vehicle Survey, 2005 Annual Averages

Average vehicle occupancies in most provinces were 1.7 persons per vehicle or close to it. Average light vehicle fuel efficiency varied from a low of 9.7 L/100 km in Prince Edward Island to a high of 11.9 L/100 km in Alberta.

In 2004, changes were introduced to the trip log. As a result, trip purpose has been revised to reflect origins and destinations visited instead of a stated reason for making the trip. Table 7-7, listing the distribution of light vehicle travel by trip origin, shows that nearly half the vehicle-kilometres driven started at the driver's home. Commuting from the normal place of work accounted for 13 per cent of total vehicle-kilometres, followed by trips from someone else's home, at 10 per cent, and trips from shopping centres, at just over eight per cent. Trips to leisure-type destinations accounted for 6.6 per cent of travel.

TABLE 7-7: LIGHT VEHICLE VEHICLE-KM BROKEN DOWN BY TRIP ORIGIN, 2005

Place	*Vehicle-km*	*Share (per cent)*
Driver's home	133.5	46.5
Someone else's home	29.1	10.1
Driver's regular workplace	37.9	13.2
Another workplace	10.7	3.7
School/day care	4.9	1.7
Shopping centre/bank/other place of personal business	23.7	8.2
Medical/dental facility	3.5	1.2
Leisure/entertainment/recreational facility/ restaurant	19.1	6.6
Gas station/rest stop	12.8	4.5
Other	11.9	4.1
Total	**287.1**	**100.0**

Note: Figures exclude the territories.

Source: Canadian Vehicle Survey, 2005 Annual Averages

In 2005, over 40 per cent of the light vehicle fleet was five years of age or less, while about one third of the fleet was 10 years of age or older. Younger vehicles were driven more on average than older vehicles, ranging from about 20,000 kilometres per year for vehicles under three years old, to 15,600 kilometres per year for vehicles six to nine years old, to only 10,100 for vehicles 14 years or older. Average light vehicle fuel efficiency was very similar for all vehicles less than 14 years of age, at a little under 11 L/100 km. Vehicles 14 or older had a fuel consumption ratio 17 per cent higher than the average. Table 7-8 breaks down light vehicle statistics by age of vehicle.

FREIGHT TRANSPORTATION

Heavy Truck Fleet by Province/Territory

The Canadian Vehicle Survey provides information on the heavy truck fleet and its use characteristics (see Table 7-9). In 2005, there were 321,000 medium trucks registered (weighing between 4,500 and 15,000 kilograms) and 294,000 heavy or Class 8 trucks (weighing over 15,000 kilograms), for a total of nearly 615,000 such trucks. Three quarters of the Class 8 heavy truck fleet was concentrated in three provinces (Ontario with 37 per cent, Alberta with 25 per cent and Quebec with 13.5 per cent). The medium truck fleet was concentrated in five provinces, which shared about 90 per cent of the total. The distribution of vehicle-kilometres in 2005 was heavily tilted in favour of heavy trucks over medium trucks, at 21.5 billion versus about six billion. The distribution of heavy truck vehicle-kilometres was even more concentrated in Ontario, Alberta and Quebec, as these provinces accounting for 80 per cent of the kilometres driven.

On average, heavy trucks were driven 73,000 kilometres per year, about four times as much as medium trucks, which were driven 19,000 kilometres pre year. This discrepancy is no surprise, given a huge difference in vehicle-kilometres despite similar numbers of trucks. The variation in heavy truck average distance driven by province was also substantial, ranging from a low of 24,000 per vehicle in Prince Edward Island to a high of 107,000 per vehicle in Quebec. Medium truck use across jurisdiction also varied widely, from a low of only 6,000 in P.E.I. to over 22,000 in Quebec.

TABLE 7-8: LIGHT VEHICLE STATISTICS BY VEHICLE AGE, 2005

	Vehicles		Vehicle-km		Litres of fuel consumed		Average distance driven	Fuel consumption ratio
	Millions	*Share*	*Billions*	*Share*	*Billions*	*Share*	*(Thousands of km)*	*(L/100 km)*
Less than 3 years	3.3	18.2	65.7	22.9	7.0	22.9	20.1	10.7
3 – 5 years	4.3	23.7	82.7	28.8	8.3	27.1	19.5	10.0
6 – 9 years	4.6	25.7	72.1	25.1	7.7	25.1	15.6	10.7
10 – 13 years	3.2	17.7	39.9	13.9	4.3	14.1	12.5	10.8
14+ years	2.6	14.6	26.6	9.3	3.3	10.9	10.1	12.5
Total	**17.9**	**100.0**	**287.1**	**100.0**	**30.7**	**100.0**	**16.0**	**10.7**

Notes: Figures exclude the territories.
Figures may not add up due to rounding.

Source: Canadian Vehicle Survey, 2005 Annual Averages

TABLE 7-9: HEAVY TRUCK FLEET STATISTICS BY PROVINCE/TERRITORY, 2005

	Vehicles *(Thousands)*		Vehicle-km *(Millions)*		Percentage distribution *Vehicles*		*Vehicle-km*	
	Medium	*Heavy*	*Medium*	*Heavy*	*Medium*	*Heavy*	*Medium*	*Heavy*
Newfoundland and Labrador	3.7	2.8	53	179	1.2	1.0	0.9	0.8
Prince Edward Island	1.4	2.5	9	59	0.4	0.8	0.1	0.3
Nova Scotia	7.0	8.1	116	582	2.2	2.8	1.9	2.7
New Brunswick	5.6	4.2	120	117	1.8	1.4	2.0	0.5
Quebec	47.5	39.8	1,054	4,252	14.8	13.5	17.5	19.7
Ontario	70.2	108.9	1,294	8,395	21.9	37.0	21.5	38.9
Manitoba	9.4	15.3	154	1,540	2.9	5.2	2.6	7.1
Saskatchewan	34.9	23.5	361	1,142	10.9	8.0	6.0	5.3
Alberta	81.2	72.7	1,571	4,564	25.3	24.7	26.1	21.2
British Columbia	57.5	13.9	1,253	523	17.9	4.7	20.8	2.4
Yukon	1.4	1.2	27	111	0.4	0.4	0.5	0.5
Northwest Territories	0.6	1.3	6	90	0.2	0.4	0.1	0.4
Nunavut	0.2	0.1	3	0	0.07	0.04	0.04	0.00
Canada	**320.6**	**294.2**	**6,020**	**21,554**	**100.0**	**100.0**	**100.0**	**100.0**

Notes: Medium trucks have a gross weight between 4.5 tonnes and 15 tonnes; heavy trucks have a gross weight of 15 tonnes or more.
Figures may not add up due to rounding.

Source: Canadian Vehicle Survey, 2005 Annual Averages

HEAVY TRUCK VEHICLE CONFIGURATIONS

Table 7-10 provides a different perspective on the medium/heavy truck fleet, one based on truck configuration of straight trucks (power unit and cargo area combined in a single chassis) versus tractor-trailers (power unit pulls cargo area in a separate trailer). In 2005, there were 339,000 trucks registered as straight trucks in the ten provinces compared with about 183,000 trucks classified as tractor-trailers. The remaining 88,000 trucks were classified as "other vehicles." While tractor-trailer combinations accounted for about 30 per cent of the fleet, they accounted for two thirds of the truck vehicle-kilometres, or 18.1 billion. Once again, this pattern was owing to the substantial difference in average distance driven per vehicle. Straight trucks were driven over 22,000 kilometres per year, while, tractor-trailers were driven nearly 100,000 kilometres per year. Heavy truck fuel efficiency averaged about 33 L/100 km, with straight trucks averaging 31 L/100 km and tractor-trailers averaging 35 L/100 km.

Most medium trucks were characterized as straight trucks, and 85 per cent of the vehicle-kilometres driven used this format in 2005. Heavy trucks, by contrast, were dominated by various tractor-trailer combinations, the most popular being a tractor and one trailer (the conventional 18 wheeler). These accounted for over two thirds of the heavy truck vehicle-kilometres, while straight trucks accounted for only 15 per cent of the heavy truck vehicle-kilometres. Table 7-11 provides further details.

Table 7-12 shows the typical uses of medium and heavy trucks. Medium trucks were used for a mix of purposes: 60 per cent of the vehicle-kilometres were taken up with carrying goods or equipment, a traditional freight-hauling role, while 35 per cent were devoted to non-freight carrying functions such as making service calls. These latter functions illustrate that medium-sized trucks were not confined solely to the for-hire or private "trucking" business. Of the nearly six billion vehicle-kilometres driven in the 10 provinces, five per cent were done empty.

Heavy truck activity was dominated by the conventional goods-hauling role, as 75 per cent of the vehicle-kilometres reported were for carrying goods or equipment. Only 11 per cent were for other work purposes, and about 13 percent of the vehicle-kilometres were made empty.

FOR-HIRE/PRIVATE OPERATION

For-hire trucking operators are those companies that provide trucking services to other companies for profit, while private operators typically haul their own goods (e.g. bakeries, beer companies). Owner-operators are individuals who own their own truck and hire out trucking services to other individuals or companies, also for profit. They are like for-hire firms except on a much smaller-scale. Table 7-13 presents a breakdown of heavy truck activity by for-hire/private operation in 2005.

TABLE 7-10: TRUCK STATISTICS, BY CONFIGURATION, 2005

	Vehicles		Vehicle-km		Fuel (litres)		Average distance driven	Fuel efficiency
	thousands	*share*	*billions*	*share*	*billions*	*share*	*(thousands of kilometres)*	*(Litres/100km)*
Straight truck	339	55.5	7.6	27.9	2.4	26.1	22.5	31.1
Tractor-trailer	183	30.0	18.1	66.3	6.3	69.8	99.1	35.0
Other	88	14.5	1.6	5.8	0.4	4.1	17.9	23.6
Total	**610**	**100.0**	**27.3**	**100.0**	**9.1**	**100.0**	**44.8**	**33.2**

Notes: Figures refer to all trucks with a gross weight of at least 4.5 tonnes.
Figures exclude the territories and buses.

Source: Canadian Vehicle Survey 2005

TABLE 7-11: TRUCK VEHICLE-KM BY DETAILED CONFIGURATION, 2005

	Medium (per cent)	*Heavy (per cent)*
Straight truck	85.1	15.4
Tractor only	0.8	3.9
Tractor and 1 trailer	0.8	68.7
Tractor and 2 trailers	-	9.6
Tractor and 3 trailers	0.0	0.6
Other	13.3	1.8
Total vehicle-km (billions)	**6.0**	**21.4**

Notes: Figures refer to all trucks with a gross weight of at least 4.5 tonnes.
Figures exclude the territories and buses.

Source: Canadian Vehicle Survey 2005

TABLE 7-12: USE OF HEAVY VEHICLES, TEN PROVINCES, 2005

	Medium trucks		*Heavy trucks*	
	Vehicle-km	*Share (per cent)*	*Vehicle-km*	*Share (per cent)*
Carrying goods/equipment	3,603	60	16,088	75
Empty	298	5	2,861	13
Other work purpose	2,083	35	2,405	11
Total	**5,984**	**100**	**21,354**	**100**

Notes: Figures are in billions and refer to all trucks with a gross weight of at least 4.5 tonnes.
Figures exclude the territories and buses.

Source: Canadian Vehicle Survey 2005

TABLE 7-13: HEAVY VEHICLE USE BY TYPE OF OPERATION, TEN PROVINCES, 2005

	Number of vehicles (thousands)			Vehicle-km (billions)			Average distance travelled (thousands of km)		
	Medium	Heavy	Total	Medium	Heavy	Total	Medium	Heavy	Total
Per cent									
For-hire	32.3	136.0	168.3	0.9	12.4	13.3	28.5	91.3	79.3
Owner-operator	44.9	63.9	108.8	0.9	5.0	6.0	20.3	79.0	54.8
Private	183.6	67.1	250.7	3.2	2.9	6.1	17.2	43.4	24.3
Other/unknown	57.5	24.6	82.1	1.0	1.0	2.0	17.1	39.6	23.8
Total	**318.3**	**291.6**	**609.9**	**6.0**	**21.4**	**27.3**	**18.8**	**73.2**	**44.8**

Notes: Figures refer to all trucks with a gross weight of at least 4.5 tonnes and exclude the territories and buses.
Figures may not add up due to rounding.

Source: Canadian Vehicle Survey 2005

Private trucking was concentrated in short-distance movements using largely medium-sized trucks. Nearly 58 per cent of the medium trucks registered were operated by private firms in 2005, compared with just 10 per cent for for-hire firms and 14 per cent for owner-operators. Moreover, medium-sized trucks made up about 75 per cent of the fleet operated by private firms. By contrast, private operators accounted for only 23 per cent of the heavy truck fleet, with for-hire operators accounting for 47 per cent and owner-operators accounting for about 22 per cent. For-hire fleets were dominated by heavy trucks, accounting for 80 per cent of the total. Overall, 41 per cent of the truck fleet was operated by private truckers with 28 per cent operated by for-hire truckers, 18 per cent by owner-operators and 13 per cent other/unknown.

Vehicle use was dramatically different between the for-hire and private trucking sectors. For-hire operators accounted for about half the vehicle-kilometres in 2005, owner-operators for 22 per cent and private operators for 22 per cent. Overall, for-hire trucks accounted for the majority of average distance driven, at almost 80,000 kilometres per year, compared with only 24,000 for private truckers and 55,000 for owner-operators. Heavy-class trucks run by for-hire companies logged more than twice as many kilometres than private trucking companies, with over 90,000 kilometres compared with 43,000 kilometres.

TRUCKING FREIGHT TRANSPORTATION

TRUCK TRAFFIC IN CANADA

A new Trucking Commodity Origin and Destination (TCOD) Survey has been developed and put in place by Statistics Canada, with 2004 as the reference year. At the time of publication of this report, some preliminary data were made available.[9] In 2004, Canadian for-hire trucking firms earning with operating revenues of $1 million or more carried 604.3 million tonnes, including 508.2 million tonnes domestically and 96.1 million tonnes at international level. Long-distance carriers accounted for 60 per cent of total tonnage carried. In the following analysis, trade data (value) will be used to approximate the truck traffic in 2005 and 2006.

TRUCK TRAFFIC BY SECTOR

Most recent data in domestic trade[10] go back to 2003. The estimated value of goods traded at the domestic level by all modes was $620 billion. Of this, $447.1 billion (77 per cent) was traded intraprovincially, while $142.6 billion (23 per cent) was traded interprovincially. Ontario dominated intraprovincial commodity trade, accounting for $191.1 billion, or 40 per cent of the total. Quebec followed with a 21 per cent share, then Alberta at 17 per cent and British Columbia at 10 per cent.

A modal breakdown was not available from the "input–output" source. However, a rough estimate of the value of domestic trade carried by trucks could be derived from many sources, such as transportation surveys[11] for various modes (tonnes) and the Canadian Vehicle Survey. As shown in Table 7-14, Canadian for-hire trucks[12] carried over 80 per cent of total tonnage shipped

9 Statistics Canada, The Daily, Cat. 11-001, March 16, 2007.

10 Interprovincial trade flows are estimated using the provincial National Accounts Information System, which is based on inputs and outputs. Statistics Canada recently issued a new time series (1997 – 2003) based on the new North American Industry Classification System (NAICS) but this does not include a modal breakdown of the provincial trade flows.

11 Trucking Commodity Origin and Destination (TCOD) survey, and other Statistics Canada surveys on the marine, rail and air modes.

12 Canadian-domiciled local and long-distance for-hire trucking firms with annual revenues of $1 million or more.

TABLE 7-14: SHARE OF FOR-HIRE TRUCKING TRAFFIC IN THE DOMESTIC SECTOR, 2004

(Millions tonnes)

	Modal share		*Modal share*		*Modal share*	
	Intraprovincial	*(Per cent)*	*Interprovincial*	*(Per cent)*	*Total*	*(Per cent)*
For-hire trucking	437.65	80.6	70.51	34.9	508.16	68.2
Rail	55.49	10.2	112.35	55.6	167.84	22.5
Marine	49.73	9.2	19.14	9.5	68.87	9.2
Air	N/A		N/A		0.47	0.1
Total	**542.87**	**100.0**	**202.00**	**100.0**	**745.34**	**100.0**

Note: N/A = Not available.

Source: Transport Canada, adapted from Statistics Canada, various publications on transportation

intraprovincially in 2004. Interprovincially, the rail mode dominated with 56 per cent of total tonnes shipped between provinces, followed by for-hire trucking at 35 per cent. The Canadian Vehicle Survey also indicated some estimates, according to sector, of vehicle-kilometres for all trucks weighing at least 4,500 kilograms. In 2005, around 65 per cent of all vehicle-kilometres by trucks were driven intraprovincially. It would be relatively safe to estimate, therefore, that at least 60 per cent of domestic trade activity is related to trucks. This figure is probably higher, as the traffic activity of private carriers, small for-hire carriers and owner-operators is not presently measured.

At the international level, international trade custom-based data provide the mode of transportation at the port of exit (export case) and at the port of clearance in the case of imports. In 2006, Canada's total exports shipped by trucks totalled $185.8 billion, down from $188.4 billion in 2005. The United States was the final destination for the quasi totality of these exports. The import picture is less clear because the mode at the port of clearance is not necessarily the same as at the port of arrival.[13] As a result, imports by trucks were slightly overestimated at $216.2 billion in 2005 ($221.1 billion in 2006). The United States was the country of origin for commodities shipped by truck, amounting to $164.7 billion in 2005 and $166.0 billion in 2006.

Commodities and Trucking Flows

In domestic trade, construction materials were the main commodity groups carried. In 2003, these shipments were valued at $151.1 billion (24 per cent of total domestic goods trade) and were moved almost exclusively within provinces. At $105.8 billion (17 per cent), agricultural products ranked second and were followed far behind by energy products ($64.4 billion, 10 per cent) and primary metals, metal and mineral products ($55.0 billion, nine per cent). Ontario, Quebec and Alberta dominated both intraprovincial and interprovincial trade, capturing almost 80 per cent of all domestic trade activity for goods. The Quebec–Ontario route (both directions) was the main interprovincial flow, accounting for $40.4 billion worth of commodities, or 28 per cent of total interprovincial trade. The Alberta–Ontario route (both directions) followed at $20.1 billion (14 per cent). Tables A7-8 to A7-12 in the Addendum provide more details on commodity groups and interprovincial flows.

In international trade, five commodity groups represented almost 80 per cent of total exports by trucks in 2005: automobiles and transport equipment ($44.5 billion), machinery and electrical equipment ($36.0 billion), other manufactured products ($32.2 billion), plastic and chemical products ($19.2 billion) and base metals / articles of base metal ($18.2 billion). In 2006, the same commodities dominated in similar proportions. The same five groups captured 87 per cent of total truck-related imports reported in 2005: machinery and electrical equipment ($67.4 billion), automobiles and transport equipment ($47.1 billion), other manufactured products ($32.9 billion), plastics and chemical products ($24.3 billion) and base metals / articles of base metal ($17.0 billion). The picture was similar in 2006.

The busiest transborder route was the Ontario–central U.S. region[14] (both directions), which accounted for $166.9 billion in 2005 or 29 per cent of total Canada–U.S. trade. This was followed by the Ontario–U.S. south region ($71.6 billion) and the Ontario–U.S. northeast region ($51.7 billion). Almost 80 per cent of shipments in these three routes were carried by trucks. The same trends prevailed in 2006. Tables A2-5 and A7-12 in the Addendum indicate more information of the routes and commodities carried.

13 In the case of imports, the mode of transport represents the last mode by which the cargo was transported to the port of clearance in Canada and is derived from the cargo control documents of customs. This may not be the mode of transport by which the cargo arrived at the Canadian port of entry in the case of inland clearance. This may, therefore, lead to some underestimation of Canadian imports by the marine and air transport modes.

14 The U.S. Central region includes states in the Great Lakes area: Michigan, Ohio, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas.

Canada–U.S Border Crossing Activity

Commercial truck activity across the Canada–U.S. border oscillated in the range 13.2 to 13.4 million two-way trips between 2001 and 2005 before falling by three per cent in 2006 to 12.9 million two-way trips, the lowest count since 1998. Crossing activity remained below the 2000 peak for the sixth straight year. Daily truck crossings at Canada–U.S. border crossing points in 2006 remained over 35,000 movements, at 35,440 daily crossings.

Car crossings continued their steady decrease since 1997, falling to 56.3 million trips in 2006, the lowest level since 1985. Tables A7-13 and A7-14 in the Addendum compare the level of heavy truck activity and car movements at the top 20 border crossings in from 2002 to 2006.

PRICE, PRODUCTIVITY AND FINANCIAL PERFORMANCE

Trucking Industry

In 2005, total operating revenues[15] of the trucking industry with motor carriers earning annual revenues of $1 million and more were $26.1 billion, up 8.6 per cent from 2004. Total operating expenses reached $25.1 billion, up 11 per cent. As a result, the for-hire trucking industry saw its 2005 operating ratio increase to 96, compared with a ratio of 94 the year before. Return on assets was five per cent, slightly lower than the 2000 – 2005 average of six per cent.

Revenues generated per driver (excluding owner-operators) reached $196,450 in 2005, up from $192,388 in 2004. Revenues per kilometre for road tractors (excluding owner-operators) reached 2.8 cents, compared with an average of 2.3 cents for the 2000 – 2004 period. For 2005, fuel intensity per dollar of revenue generated remained the same as that for the previous five-year, that is, a yearly average of $5.5 of operating revenues for every litre of fuel consumed. Tonne-kilometre figures over the same period were not available.

Urban Transit Systems

Revenues (excluding subsidies) generated by urban transit carriers' operations rose by 7.2 per cent in 2005. Quebec transit authorities registered the strongest growth, at 11.3 per cent. The Quebec results were achieved through increases of 6.2 per cent in the average fare and 4.3 per cent in the number of passengers carried, as well as a 19.2 per cent rise in non-passenger revenues.

Overall, total transit output in Canada increased by 2.7 per cent, based on increases of 3.9 per cent in passengers carried and 1.6 per cent in non-passenger revenues. Average fares also rose, by 3.5 per cent.

Transit systems are both labour- and capital-intensive, more so than other transport industries. These two factors of production represented 52 and 23 per cent, respectively, of total costs in 2005.

In 2005, total factor productivity of transit systems declined by 4.3 per cent. Capital productivity fell by 9.3 per cent and labour productivity decreased by 1.9 per cent. Energy efficiency declined by 1.1 per cent, while the productivity of other variable factors of production fell by 6.8 per cent.

Transit costs per unit of output rose by 2.8 per cent in 2005. Since 1998, total unit costs have increased by 22.9 per cent, for an annual average increase of 3.0 per cent.

The total costs of transit systems in Canada were estimated at $5.6 billion in 2005. Cost recovery was measured at 46.7 per cent, a slight improvement over 2004 and the highest ratio registered since 1986. Annual operating subsidies rose to $2.1 billion, up 10 per cent from 2004. Capital subsidies increased by $367 million to $1.2 billion. The federal government increased its capital contribution from $73 million in 2004 to $223 million in 2005.

Cost recovery ratios for 2005 were 49.7 per cent in Ontario, 44.7 per cent in Quebec, 44.6 per cent in British Columbia and 37.3 per cent in Alberta. Urban transit operations in the rest of Canada, which account for only five per cent of overall transit revenues, consistently show higher cost recovery rates than the four selected provinces. This ratio has been hovering around 50 per cent since 1996 and was at 48.9 per cent in 2005, slightly below Ontario's ratio.

Table 7-15 provides details of the performance of transit system in 2005.

TABLE 7-15: SELECTED PROVINCIAL SYSTEMS INDICATORS FOR URBAN TRANSIT, 2005

	Quebec	*Ontario*	*Alberta*	*British Columbia*	*Rest of Canada*	*Canada*
Price levels (Canada = 100)	80.0	117.1	76.9	111.0	86.4	100.0
Total unit cost (Canada = 100)	83.4	109.9	96.2	116.3	82.5	100.0
Cost recovery (in %)	44.7	49.7	37.3	44.6	48.9	46.7
Revenue shortfall per passenger ($)	1.55	1.89	2.05	2.11	1.44	1.81

Source: Transport Canada, based on Statistics Canada and CUTA information

15 Financial data based on Statistics Canada Q5 Annual Supplement, which is more appropriate for analysis of for-hire trucking firms' balance sheets.

MARINE TRANSPORTATION 8

The value of marine exports increased in 2005 by 11.8 per cent, compared to a 9.6 per cent for imports.

MAJOR EVENTS IN 2006

LEGISLATIVE AND REGULATORY CHANGES AND INITIATIVES

CANADA SHIPPING ACT AND REGULATORY REFORM UNDER THE *CANADA SHIPPING ACT, 2001*

The *Canada Shipping Act, 2001* (CSA 2001) received Royal Assent on November 1, 2001. However, until the regulations required in support of the new Act are in place, the existing *Canada Shipping Act* and its related regulations will remain in full force and effect.

There are two phases to the implementation of the new regulations. In Phase 1, which is expected to be completed in 2007, more than 50 existing regulations are being reformed and streamlined into an estimated 22 regulations. At that time, the CSA 2001 will come into force. In Phase 2, the remaining regulations will be modernized so they are consistent with the requirements of the new Act.

The CSA is the main legislation overseeing personal safety and environmental protection in Canada's marine sector. It applies to Canadian vessels operating anywhere and to foreign vessels operating in Canadian waters. This includes legislative and regulatory responsibilities relating to pleasure craft safety, marine navigation services, pollution prevention and response, and navigable waters, which were transferred from Fisheries and Oceans Canada to Transport Canada in 2003.

Transport Canada conducted extensive public consultations on the Phase 1 regulations at the spring and fall regional and national meetings of the Canadian Marine Advisory Council (CMAC). In addition, several individual projects conducted outreach sessions with stakeholders at strategic locations across Canada. Most Phase 1 projects are now being finalized for approval and publication in Parts I and II of the *Canada Gazette*.

Some of the regulations to come out of Phase 1 of the CSA 2001 Regulatory Reform Project include Administrative Monetary Penalties Regulations; Ballast Water Control and Management Regulations; Cargo, Fumigation and Tackle Regulations; Collision Regulations; Competency of Operators of Pleasure Craft Regulations; Environmental Response Regulations; Fire Safety Regulations; Fishing Vessel Safety Regulations; Heritage Wreck Regulations; Load Line Regulations; Marine Personnel Regulations; Regulations for the Prevention of Pollution from Ships and for Dangerous Chemicals; Safety Management Regulations; Ships Registry and Licensing Fees Tariff; Small Vessel Regulations; Vessel Certificates Regulations; Vessel Clearance Regulations; Vessel Detention Orders Review Regulations; Vessel Operation Restriction Regulations; and Vessel Registration and Tonnage Regulations. For more information on the CSA 2001 Regulatory Reform Project, visit www.tc.gc.ca/marinesafety/menu.htm.

MARINE ATLANTIC REVITALIZATION STRATEGY

Based on extensive consultations, the concerns of users, and close cooperation with Marine Atlantic Inc., the federal government developed a long-term strategy to revitalize the ferry services provided by this Crown corporation. The strategy was announced in January 2007 and its first phase includes additional funding of $54 million per year for the next five years; predictable tariff increases on constitutional services to be adjusted to the Consumer Price Index; implementation of a fuel surcharge as per standard industry practices; and a mandate given to the corporation's new Board of Directors to develop and implement a five-year plan to improve

service efficiencies, contain operating costs and save on fuel expenses. The Board has also been asked to continue advancing the fleet renewal plan that was submitted to the Government in 2006. More particularly, cost–benefit analyses and feasibility studies are required within the next two years to determine the specific requirements for the new ships and for ship refits. This information on the extent of the capital project is necessary for the Government to implement the second phase of the revitalization strategy aimed at renewing and upgrading Marine Atlantic's fleet. This active approach strikes a balance between the Canadian taxpayers' contribution to the service, the stakeholders' share of the cost of the service and the Crown corporation's effort to contain operational expenses while delivering an efficient service.

Short- And Long-Term Strategies for the Saint John – Digby Ferry Service

Bay Ferries has been operating the Saint John – Digby ferry service since 1997, when it was commercialized through a competitive tendering process. Bay Ferries has experienced significant challenges during the past few years, including large increases in fuel and insurance costs, and a significant decline in American visits to the Atlantic Region. Due to the financial operating losses on the Saint John – Digby ferry service, Bay Ferries announced in June 2006 that it would cease operating this specific route as of November 1, 2006. Recognizing the importance of this route to the regional economy, the federal government worked with its provincial counterparts to find a viable solution. Following an impact study, the federal government, the Province of New Brunswick and the Province of Nova Scotia announced in October 2006 that they would provide Bay Ferries with short-term financial assistance up to January 31, 2009. During this interim period, the federal government will work with stakeholders to identify a viable long-term strategy in line with the National Marine Policy and economic development imperatives.

National Marine and Industrial Council

The National Marine and Industrial Council (NMIC) was established in 2004 at the request of marine stakeholders. The objective of the Council is to provide a forum for the discussion of marine policy issues between marine industry executives and deputy ministers of federal departments that play a role in marine transportation. The Council also strives to raise the profile of Canada's marine transportation sector as an economic generator.

The NMIC includes senior representatives from cargo shippers, domestic and international shipowners, port operators and marine service providers from across the country, as well as from Transport Canada, Industry Canada, Fisheries and Oceans Canada, Foreign Affairs and International Trade Canada, and Environment Canada.

The Council meets twice a year, and inter-sessional activities are carried out by working groups with the support of the Council Secretariat, which is housed at Transport Canada. Key subjects of discussion include competitiveness, security, innovation and infrastructure.

Shortsea Shipping For Increasing Intermodality

In April 2006, Transport Canada, in collaboration with the U.S. Department of Transportation Maritime Administration and the Secretariat of Communications and Transport of Mexico, hosted the North American Marine Conference in Vancouver. The conference was the result of collaboration between the three nations following the signing of a Memorandum of Cooperation on Shortsea Shipping in 2003. The conference also contributed to fulfilling commitments under the Security and Prosperity Partnership, a trilateral action plan designed to increase the security, prosperity and quality of life in North America.

The conference promoted the shortsea shipping concept and facilitated discussion of the contribution of the marine mode within an integrated North American transportation system. Transportation officials from Canada, the United States and Mexico signed a declaration to demonstrate each government's commitment to continue trilateral cooperation and develop insights into the challenges associated with shortsea shipping. The declaration provides a general framework for developing a tripartite North American shortsea shipping steering committee with the objective of establishing an active relationship between the participants in order to share experience and professional knowledge.

Transport Canada continued in 2006 to pursue several studies and initiatives to understand and assess the opportunities, challenges, policy considerations and overall state of shortsea shipping in Canada, whether on the west or east coast, the St. Lawrence, the Great Lakes or in the Arctic. And, since 2004, Transport Canada has continued to be an active member of the Quebec Shortsea Shipping Roundtable. This roundtable works to create a clearinghouse for information and expertise, communicate information to stakeholders, and promote and support shortsea shipping projects.

Canada Marine Act

Efforts were undertaken to amend the *Canada Marine Act* (CMA) in 2005. The proposed amendments followed the tabling of a June 2003 report pertaining to the first five years of operation of the Act. In 2006, Transport Canada, in consultation with financial experts, considered a number of key issues in order to further refine legislative amendments to the CMA in combination with enhanced policy initiatives focussed on increasing financial flexibilities for Canada Port Authorities. These consultations will be completed in early 2007 and will be used as key inputs to future CMA amendments and government activities in 2007/08.

INFRASTRUCTURE

Canada's Ports and Harbours System

Canada's ports and harbours are an integral part of the national transportation system. They are crucial links in our domestic and international economic activities and vital gateways to the rail and road networks serving both Canada and the whole of North America.

As a trading nation, Canada's ports are key to ensuring our current and future economic prosperity and competitiveness in the global market — the vast majority of goods transported overseas to or from Canada are moved through ports. Emerging economies in Asia, Eastern Europe and South America, and the increased global economic activity they will create, will magnify the importance of Canadian ports. In order to compete in the global economy, Canada's ports and harbours will be relied on to ensure that the flow of goods to and from the country is completed seamlessly and efficiently.

Domestically, ports and harbours facilitate the distribution of goods to Canadian markets in a cost-effective and environmentally friendly manner while reducing strain on the country's road and rail infrastructure.

The National Marine Policy, announced in 1995, laid out a comprehensive program to change the policy and legislative framework for major elements of the transportation system that were government owned and operated. A key element of the policy was to bring a greater level of commercialization to the marine sector through a variety of measures. These include increasing transparency; giving users a greater say in services offered and the costs of those services; improving the efficiency of management structures; eliminating outdated regulations/legislation; and, where feasible, letting the private sector deliver certain services.

To facilitate this restructuring, the National Marine Policy specified three categories of ports: (1) Canada Port Authorities (CPAs), (2) regional/local ports and (3) remote ports.

To achieve the objectives of the policy, a new, comprehensive law governing the marine sector, the *Canada Marine Act* (CMA) was adopted by Parliament in 1998. The ports comprising the National Port System, which includes former Canada Ports Corporations and harbour commissions, would operate under a new business and governance model as CPAs. In addition to strategic and economic criteria listed in the CMA, CPAs were also expected to have links to intermodal connections and diversified traffic.

Nineteen ports were given CPA status under the CMA: Fraser River, Vancouver, North Fraser, Nanaimo, Prince Rupert, Port Alberni, Thunder Bay, Windsor, Toronto, Hamilton, Montreal, Quebec City, Trois-Rivières, Saguenay, Sept-Îles, Saint John, St. John's, Belledune and Halifax.

CPAs are responsible for the business operations of the port within the policy framework set out by the CMA and further defined through Letters Patent established for each CPA.

CPAs were incorporated by Letters Patent for the purpose of operating a particular port. The Letters Patent set out, among other things, the geographic limits of the port and related navigable waters, the governance structure, the annual stipend (the gross revenue charge) to be made to the federal government, the extent to which a port authority may undertake certain activities, maximum lease terms, and borrowing limits.

CPAs act as agents of the Crown under the CMA for certain purposes. They have the authority to engage in activities related to shipping, navigation, transporting passengers and goods, and handling/storing goods. They can also engage in other activities deemed necessary to support port operations, as outlined in their respective Letters Patent; however, with respect to these activities, the CPAs are not agents of the Crown.

Although CPAs were granted the right to operate and manage a port, they cannot issue shares. They may be given Crown land to operate and manage, but not to own. They may, however, acquire and own land in their own name. To help cover costs, CPAs may also establish fair and reasonable fees for use of the facilities or services provided. CPAs may not discriminate among users of the port but they may differentiate in their fees and services based on the volume or value of goods or on any basis generally accepted commercially.

CPAs must also demonstrate public accountability. As set out in the CMA, each board of directors includes seven to eleven members. (All CPAs have seven members, except for Vancouver, which has nine). Each board appoints the officers of the CPA. A majority of each board is appointed in consultation with port users. In addition, the federal and respective provincial and municipal governments each appoint one director.

In addition, the CMA requires that each CPA make available to the public its audited financial statements. These should consist of, at the least, a balance sheet, statements of retained earnings, income and expenses, changes in financial position and remuneration paid to directors and senior management. Each CPA must also hold an annual meeting open to the public and provide adequate prior notice of these meetings.

Most Transport Canada-owned ports are regional/local ports. These range from ports with a high volume of regional and local traffic to smaller ports with little or no commercial activity. In accordance with the Port Divestiture Program, the federal government is terminating its operational and ownership interests in regional/local ports. This means transferring them to other federal departments, provincial governments or local interests. Local interests include municipal authorities, community organizations and private interests. For remote ports serving as the primary transportation portals for isolated communities, Transport Canada will retain control and administration unless local stakeholders are willing to assume ownership of them.

Port Divestiture

Before the National Marine Policy came into force, Transport Canada controlled and administered 549 public ports and port facilities. Of these, 466 have been transferred, deproclaimed or demolished, or have had Transport Canada's interests terminated. As of December 31, 2006, 83 sites remained under Transport Canada control. In addition, there are 20 sites where facilities have been transferred but cannot be deproclaimed because the harbour bed has not yet been divested. For detailed port information, see tables A8-1 and A8-2 in the Addendum.

Table 8-1 summarizes the classification of ports as of December 31, 2006.

As of December 31, 2006, 65 sites had been transferred to other federal departments and 40 had been transferred to provincial governments. Another 124 sites were divested to local interests. In addition, 26 sites have either been demolished or have had Transport Canada's interest terminated through lease or licence terminations.

Since the Ports Divestiture Program began, 273 public ports have been deproclaimed. Of these, archival research identified another 26 harbours beyond the original 549 port sites listed in the National Marine Policy. Transport Canada continues to administer 57 regional/local ports and 26 remote ports nationwide.

TABLE 8-1: PORT CLASSIFICATIONS AS OF DECEMBER 31, 2006

	Federal	*Provincial*	*Local*	*Total*
Federal Agency Ports				
Canada Port Authorities	19	N/A	N/A	**19**
Harbour Commissions	1	N/A	N/A	**1**
Ports Operated by Transport Canada				
Regional/Local	57	N/A	N/A	**57**
Remote	26	N/A	N/A	**26**
Ports Transferred[1]				
From Transport Canada	65	40	124	**229**
Status of other former Transport Canada Ports				
Demolished	8	N/A	N/A	**8**
Interests terminated	18	N/A	N/A	**18**
Deproclaimed[2]	211	N/A	N/A	**211**

Notes: N/A = Not available
Additional detailed information on ports is presented in tables A8-1 and A8-2 in the Addendum. This includes summaries of the provincial distribution of the ports Transport Canada administered from 1996 to 2005 and the divestiture status of regional/local and remote ports on a regional basis.

1. Includes 18 sites where facilities have been transferred but the harbour bed has not yet been deproclaimed, 64 sites that were transferred to Fisheries and Oceans Canada and one site that was transferred to Health Canada.
2. Public harbours deproclaimed between June 1996 and March 1999.

Source: Transport Canada

Financial Performance

For detailed financial information, see Addendum tables A8-3 to A8-6.

In 2005, the CPAs had operating revenues of $309 million, down 0.4 per cent from 2004. Vancouver and Montreal accounted for 57 per cent of this total. Of the 19 CPAs, 12 reported increases in operating revenues ranging from of $0.04 million to $2.5 million. Montreal and Sept-Îles had the greatest increases, at $2.5 million (3.2 per cent) and $1.7 million (3.4 per cent), respectively.

Operating expenditures decreased by $15.2 million, with individual decreases ranging from $0.01 million to $8.1 million. Eight CPAs reported higher expenses, ranging from $0.07 million to $1.2 million increases. The ports reported approximately $11.3 million in total gross revenue charges, the same as in 2004. The port authorities spent $112 million on capital projects in 2005.

In 2005, the ratio of operating expenditures as a percentage of operating revenues for the CPAs averaged 76 per cent. Individual ratios ranged from 47 per cent to 147 per cent, and the overall return on assets was four per cent.

All port authorities had a total net income of $55 million. Seven CPAs had increases in net income ranging from $0.2 million to $2.4 million increases, while 12 had net losses ranging from $0.07 million to $4.2 million.

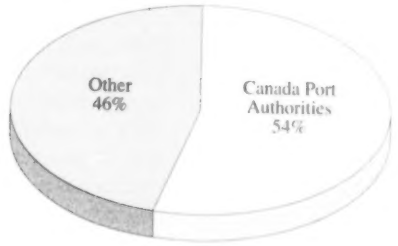
Based on some preliminary data, CPAs handled 249 million tonnes in 2005, up from 237 million tonnes in 2004. Five CPAs accounted for 70 per cent of total cargo by volume: Vancouver (35 per cent), Saint John (11 per cent), Montreal (10 per cent), Quebec City (9 per cent) and Sept-Îles (9 per cent). Revenues per tonne were $1.24, down from $1.31, while expenses per tonne were $0.94, down from $1.1 in 2004.

Port Traffic

In fiscal year 2005/06, Transport Canada's Port Programs had $12.2 million in gross revenues. Combined with $17.2 million in expenses, $3.4 million in capital expenditures and $58.7 million in grants and contributions for port divestiture transfers, this left a total net loss of $67.1 million. For details, see Table A8-6 in the Addendum.

Figure 8-1 shows estimated traffic shares by port groups in 2005.

FIGURE 8-1: ESTIMATED TRAFFIC SHARES BY PORT GROUPS, 2005



1 "Other" ports represents locations owned and operated by Fisheries and Oceans Canada, provincial and municipal governments, or private facilities.

Source: Port Websites; Economic Analysis, Transport Canada

Following is the 2005 tonnage breakdown for CPAs: Vancouver, 76.5 million tonnes; Saint John, 27.5 million tonnes; Montreal, 24.3 million tonnes; Quebec, 22.7 million tonnes; Sept-Îles, 22.4 million tonnes; Halifax, 13.7 million tonnes; Fraser River, 15.9 million tonnes; Hamilton, 12.4 million tonnes; Thunder Bay, 8.2 million tonnes; Windsor, 5.5 million tonnes; North Fraser, 4.2 million tonnes; Prince Rupert, 4.4 million tonnes; Trois-Rivières, 2.5 million tonnes; Belledune, 2.2 million tonnes; Nanaimo, 1.9 million tonnes; Toronto, 2.4 million tonnes; St. John's, 1.4 million tonnes; Port Alberni, 1.0 million tonnes and Saguenay, 0.31 million tonnes. See Table A8-7 in the Addendum for the total tonnage handled by Canada's port system in 2004 – 2005.

Small Craft Harbours Program

Fisheries and Oceans Canada

The Small Craft Harbours (SCH) Program within Fisheries and Oceans Canada (DFO) provides commercial fishers and recreational boaters with safe and accessible facilities through the operation and maintenance of a national system of harbours. Keeping harbours that are critical to the fishing industry open and in good repair is the SCH's mandate. Its long-term objective is to retain a network of approximately 750 core, locally managed fishing harbours. It is expected that all non-essential harbours (i.e. recreational harbours and fishing harbours with low or no activity) will be divested.

Fishing Harbours

Since the late 1980s, the SCH program has supported the creation of local Harbour Authorities to manage the commercial fishing harbours in their communities. Harbour Authorities are typically local, not-for-profit organizations composed of fishers and other harbour users. They lease the harbour from SCH and provide services, maintenance and harbour management. As of

December 31, 2006, Harbour Authorities managed 687 core fishing harbours across Canada, about 92 per cent of the SCH program target. Fishing harbours not generating enough community interest to form harbour authorities are expected to be divested or, if necessary, demolished. Such harbours usually have low or no activity, and these divestitures have a negligible impact on the commercial fishing industry or the community at large. To date, 299 fishing harbours have been divested and 82 are in the final stages of divestiture.

Table 8-2 reports the fishing harbours remaining in the SCH portfolio as of December 31, 2006, by region and status.

TABLE 8-2: SCH FISHING HARBOURS BY MANAGEMENT TYPE AND REGION, AS OF DECEMBER 31, 2006

	Harbour Authorities	*Small Craft Harbours*	*Regional Total*
Pacific[1]	78	69	147
Central and Arctic	53	17	70
Quebec	55	27	82
Maritimes and Gulf	283	38	321
Newfoundland and Labrador	276	100	376
Total[2]	**745**	**251**	**996**

1 Totals include 47 mooring buoy sites in British Columbia.
2 There are no harbour authorities in Northwest Territories, Nunavut or the Yukon.

Source: Small Craft Harbours, Department of Fisheries and Oceans

Recreational Harbours

The intention of the SCH program is to divest its entire inventory of recreational harbours. Since 1994/95, 662 (78 per cent) recreational harbours have been divested or are in the final stages of divestiture. The SCH disposal strategy, approved by Treasury Board in 1995, permits disposals at a consideration of $1.00, subject to conditions. These conditions include a requirement to maintain public access for at least five years. Environmental assessments and reasonable repairs are completed before transfer to ensure that facilities are safe. Municipalities, local not-for-profit organizations, First Nations or other federal departments are the main recipients. In the absence of a public body interested in acquiring the facilities, they are offered at market value to the general public. As a last resort, if there is neither public nor private interest in the facilities, they are demolished. It is expected that the recreational harbour divestiture program will continue for several years.

Tables 8-3 to 8-5 summarize, by region, the status of the SCH recreational harbour divestifure program (Table 8-3), recipients of harbours divested (Table 8-4) and type of management of the remaining harbour sites in the SCH inventory (Table 8-5).

TABLE 8-3: SCH RECREATIONAL HARBOUR DIVESTITURES BY REGION AS OF DECEMBER 31, 2006

	Fully Divested 1995 – 2005	*Fully Divested 2005/06*	*Final Stage of Divestiture*	*Total Divested*	*Remainder to be Divested*	*Regional Total*
Pacific	54	0	4	58	7	65
Central and Arctic	282	14	4	300	145	445
Quebec	215	6	3	224	29	253
Maritimes and Gulf	79	0	0	79	1	80
Newfoundland and Labrador	1	0	0	1	1	2
National Totals	**631**	**20**	**11**	**662**	**183**	**845**

Source: Small Craft Harbours, Fisheries and Oceans Canada

TABLE 8-4: RECIPIENTS OF DIVESTED SCH RECREATIONAL HARBOURS AS OF DECEMBER 31, 2006

	Province	*Municipality*	*Private Sector*	*Other*[1]	*Total by Region*
Pacific	51	1	1	5	58
Central and Arctic	22	214	21	43	300
Quebec	3	192	2	27	224
Maritimes and Gulf	4	19	4	52	79
Newfoundland and Labrador	0	1	0	0	1
Total	**80**	**427**	**28**	**127**	**662**

1 Refers to sites that have been transferred to local not-for-profit organizations, First Nations or other federal departments, as appropriate.

Source: Small Craft Harbours, Fisheries and Oceans Canada

TABLE 8-5: MANAGEMENT OF REMAINING SCH RECREATIONAL HARBOURS AS OF DECEMBER 31, 2006

	Managed Under Lease	*Small Craft Harbours*	*Other*[1]	*Total by Region*
Pacific	1	0	6	7
Central and Arctic	99	36	10	145
Quebec	3	26	0	29
Maritimes and Gulf	0	1	0	1
Newfoundland and Labrador	0	1	0	1
Total	**103**	**64**	**16**	**183**

1 Refers to a variety of management and non-management situations. Some infrastructure, such as shoreline reinforcement or breakwaters, are largely stable and do not require on-going management. Some facilities are part of a larger development (e.g. a marina) and managed as part of that development. In other cases, facilities no longer exist at the site.

Source: Small Craft Harbours, Fisheries and Oceans Canada

MARINE PILOTAGE

In Canada, regional pilotage authorities direct and control navigation and/or ship handling of vessels through coastal and inland waterways in a safe and efficient manner. There are four such pilotage authorities in Canada: Atlantic (APA), Laurentian (LPA), Great Lakes (GLPA) and Pacific (PPA). Each responds to the particular requirements of marine traffic and to the geographic and climatic conditions of the waterways in its region.

The LPA, GLPA and PPA each experienced a surplus in 2006, resulting in a combined gain of about $3 million for the four pilotage authorities. Table 8-6 shows the financial results for the four pilotage authorities in 2006.

TABLE 8-6: PILOTAGE AUTHORITY FINANCIAL RESULTS, 2006

(Thousands of dollars)

Pilotage Authority	*Revenues*	*Expenditures*	*Net income (loss)*
Atlantic Pilotage Authority (APA)	14,794	15,767	(735)[1]
Laurentian Pilotage Authority (LPA)	65,608	63,187	2,421
Great Lakes Pilotage Authority (GLPA)	18,447	18,126	321
Pacific Pilotage Authority (PPA)	49,264	48,232	1,032
Total Pilotage Authorities	**148,113**	**145,312**	**2,801**

1 Extraordinary gain of $238,000 due to the insurable loss of a Pilot vessel.

Source: Pilotage Authorities' 2006 draft annual reports

Using the average number of assignments per pilot as an indicator, overall, the efficiency of pilotage services in 2006 remains the same as that of 2005. The only exception was the APA, where the average number of assignments per pilot decreased in 2006. The variations between the authorities and from year to year are related to traffic levels. Assignments increased for the LPA and GLPA but decreased for the APA and PPA. Overall, there were slightly fewer assignments in 2006 than in 2005.

Table 8-7 shows the number of assignments for each pilotage authority and the total for all pilotage authorities in 2006. For information on other years, see Table A8-8 in the Addendum.

TABLE 8-7: TOTAL PILOTAGE ASSIGNMENTS AND ASSIGNMENTS PER PILOT, 2006

Pilotage Authority	*Indicators*	*2006*
Atlantic (APA)	Pilots	55
	Total Assignments	10,041
	Assignments Per Pilot	183
Laurentian (LPA)	Pilots	175
	Total Assignments	22,247
	Assignments Per Pilot	133
Great Lakes (GLPA)	Pilots	61.5
	Total Assignments	6,931
	Assignments Per Pilot	113
Pacific (PPA)	Pilots	105
	Total Assignments	12,945
	Assignments Per Pilot	123
Total All Authorities	Pilots	396.5
	Total Assignments	53,164
	Assignments Per Pilot	135

Source: Pilotage Authorities' 2006 draft annual reports

CANADIAN COAST GUARD

The Canadian Coast Guard (CCG) is a Special Operating Agency within Fisheries and Oceans Canada (DFO). The CCG is a key national institution that allows Canada to exert influence over its waters and coasts. It delivers on public expectations of clean, safe, secure, healthy and productive waters and coastlines. It achieves this mission through nine services (program sub-activities), as follows.

Aids and Waterways Services supports approximately 17,000 short- and long-range aids and monitors the conditions of 75 commercial shipping channels. Key focuses of this service include delivering aids to navigation, waterways management, and marine safety information services to support marine safety, accessibility of waterways and environmental protection.

Marine Communications and Traffic Services monitors 450,000 vessel movements annually, provides marine distress/safety communications and coordination, conducts vessel screenings, regulates vessel traffic movement, and provides information systems and public correspondence on a 24/7 basis.

Icebreaking Services provides approximately 1,700 ice services each year. It provides icebreaking and related services (ice routing, harbour breakouts, route assistance, etc.) to facilitate the safe and expeditious movement of maritime traffic through and around ice-covered Canadian waters and to reduce the risk of flooding caused by ice jams on the St. Lawrence River.

Search and Rescue Services saves about 3,000 lives and assists in 2,000 maritime incidents each year. The primary goal of maritime SAR is to save lives at risk. The federal Search and Rescue system is led by the Canadian Minister of National Defence, who is responsible for ensuring a coordinated approach. The CCG provides and leads the maritime component of the federal Search and Rescue program, with the support of the Coast Guard Auxiliary.

Environmental Response Services responds to ship source pollution incidents and mystery oil spills. On average, it deals with over 1,200 reported incidents each year. As the lead federal agency for ship source spill response, the CCG delivers environmental incident preparedness and response services that protects the marine environment under Canadian jurisdiction and provides response assistance to other countries under international agreements. For North of 60°, the CCG is the sole response organization.

Maritime Security Services supports the Government of Canada's national security objectives by contributing to security on Canadian waterways. This service includes support to the federal enforcement and intelligence communities through Coast Guard fleet and national marine communications activities. The CCG works closely with the security community as a member of the Transport Canada-led Interdepartmental Marine Security Working Group.

Coast Guard College Services has as its mission to increase the safety and protection of the national and international maritime transportation systems and environments by developing, disseminating and administrating maritime training, education and research programs on behalf of the Government of Canada. This service includes training junior officers for Coast Guard service by delivering high quality, up-to-date maritime training and services in a modern and progressive environment.

Fleet Services is responsible for managing, operating and maintaining the CCG Fleet (vessels and aircraft) for the delivery of civilian marine services in support of the Government of Canada's maritime priorities. This includes the above-mentioned CCG programs as well as support to Science, Oceans and Fisheries Management (Conservation and Protection).

Contribution to other Government Objectives delivers civilian marine services (expertise, personnel and infrastructure: vessels and aircraft) on behalf of other government departments or in support to agencies and organizations in the achievement of the Government of Canada's maritime priorities.

As a Special Operating Agency within DFO, the CCG delivers its programs and services through the federal government's civilian fleet and a broadly distributed shore infrastructure. This infrastructure includes marine communications and traffic services centres, major bases, multi-tasked lifeboat stations, rescue centres with Canadian Forces, and aids to navigation. It also includes hundreds of other assets, such as radio towers, throughout the country. In addition, the CCG manages and operates the Canadian Coast Guard College, in Sydney, Nova Scotia.

The Coast Guard is a recognized symbol of Canadian sovereignty and maritime excellence. It is instrumental in saving lives, facilitating maritime commerce, responding effectively to pollution incidents, protecting the aquatic environment and supporting maritime security. CCG responds to maritime emergencies and disasters both in Canada and internationally; for example, Hurricane Katrina in 2005.

The Coast Guard has identified three broad areas — Focus on Client Service, Focus on Efficiency and Effectiveness, and Focus on People — as key organization priorities.

Financial Profile

Table 8-8 shows the Coast Guard's financial results for the last four fiscal years. Results for 2006/07 reflect forecasted revenue and expenditures to fiscal year-end and will not be finalized until the end of the fiscal year.

TABLE 8-8: CANADIAN COAST GUARD REVENUES AND EXPENDITURES, 2003/04 – 2006/07

(Millions of dollars)

	2003/04	*2004/05*[1]	*2005/06*[2]	*2006/07*[2]
Revenue	37.4	40.4	43.2	50.1
Gross Expenditures	504.5	543.3	550.6	565.5
Net Expenditure	**467.1**	**502.9**	**507.4**	**515.4**

1 2003/2004 figures do not include the Coast Guard College. 2004/2005 figures include amounts related to the Coast Guard College, which was transferred to the Coast Guard as of April 1, 2004.

2 All gross and net expenditures reported do not include the Program Enablers' allocation. Refer to Table 8-9 for a breakdown of the Coast Guard's Revenues and Gross Expenditures by sub-activity.

Source: Fisheries and Oceans Canada

In June 1996, the CCG introduced the Marine Navigation Services Fee, which was targeted to collect $27.7 million annually, including administrative costs.

In 1998, the CCG introduced a transit-based Icebreaking Services Fee, which was targeted to collect $13.8 million annually, including administrative costs.

TABLE 8-9: CANADIAN COAST GUARD PLANNED REVENUES AND EXPENDITURES, 2006/07

(Millions of dollars)

	AWS	*MCTS*	*ICE*	*SAR*	*ER*	*College*	*Fleet*	*Maritime Security*	*Total*
Revenues	32.3	0.1	13.8	0.2	0	3.7	0	0	50.1
Gross Expenditures[1]	145.0	89.0	55.6	95.9	10.5	8.3	148.7	12.5	565.5
Net Planned Spending[1]	**112.7**	**88.9**	**41.8**	**95.7**	**10.5**	**4.6**	**148.7**	**12.5**	**515.4**

Note: AWS: Aids and Waterways Services; MCTS: Marine Communication and Traffic Services; ICE: Icebreaking Services; SAR: Search and Rescue Services; ER: Environmental Response Services; Fleet: Fleet Management Services.

1 The gross expenditures and net planned spending reported do not include the Program Enablers' allocation.

Source: Fisheries and Oceans Canada

The Maintenance Dredging Services Tonnage Fee, established in September 1997, was originally intended as an interim measure to cover the full costs that the CCG incurred in providing maintenance dredging services in the St. Lawrence Ship Channel.

The Coast Guard continues to work with representatives from the commercial marine transportation industry to arrive at a long-term arrangement on these revenues.

Table 8-9 breaks down the Coast Guard's revenues and expenditures by its seven main sub-activities for fiscal year 2006/07. Both revenues and expenditures are forecasts only and will not be finalized until the end of the fiscal year.

St. Lawrence Seaway

Cutting to the industrial heartland of North America, the St. Lawrence Seaway is a unique inland waterway, serving 15 major international ports and some 50 regional ports on both sides of the Canada–United States border.

The Seaway consists of two sections. The 300-kilometre Montreal–Lake Ontario (MLO) section runs from Montreal to Lake Ontario and has five locks in Canada and two in the United States. The 42-kilometre Welland Canal joins Lake Ontario to Lake Erie and has eight locks, all in Canada. Combined, the two sections gradually raise vessels 183.2 metres above sea level, the height of a 60-storey building. The locks and channels of the Seaway accommodate vessels up to 225.5 metres long, 23.8 metres wide and eight metres in draft.

The St. Lawrence Seaway Management Corporation (SLSMC) manages, operates and maintains the navigational aspects of the Canadian portion of the Seaway. A not-for-profit corporation, the SLSMC was established by Seaway users and other interested parties. It assumed management of the Canadian Seaway on October 1, 1998, under a long-term agreement with the federal government pursuant to the *Canada Marine Act*. The SLSMC charges tolls and generates other revenues to finance the operation and maintenance of the Seaway. When required, it also receives additional funds from the federal government to eliminate operating deficits.

In 2006, the Seaway handled an estimated 47.1 million tonnes, up 8.8 per cent over 2005. Grain ranked first among commodity shipments, with 11.5 million tonnes, up 17.6 per cent. Shipments of iron ore and coal were 11.0 and 3.7 million tonnes, respectively, both commodities up slightly over 2005. Overall, the Seaway experienced strong performance within its traditional bulk and general cargoes, which were complemented by a series of new cargoes, including shipments of aluminum ingots, and wind turbine parts. Table 8-10 shows cargo movements for 2005 and 2006 while Table 8-11 shows traffic by commodity for the same years. For a longer time series, see tables A8-9 and A8-10 in the Addendum.

TABLE 8-10: ST. LAWRENCE SEAWAY CARGO MOVEMENTS, 2005 AND 2006

(Thousands of tonnes)

Year	*Montreal–Lake Ontario Section*	*Welland Canal Section*
2005	31,273	34,150
2006[1]	35,546	37,633

1 Figures are estimated as of December 31, 2006.

Source: St. Lawrence Seaway Management Corporation

TABLE 8-11: ST. LAWRENCE SEAWAY TRAFFIC BY COMMODITY, 2005 AND 2006

(Thousands of tonnes)

Year	*Grain*	*Iron Ore*	*General Cargo*	*Coal*	*Other*	*Total*
2005	9,773	11,010	3,259	3,693	15,566	**43,301**
2006[1]	11,490	11,025	4,620	3,701	16,282	**47,118**

Note: Combined traffic in the two sections of the Seaway.

1 Figures are estimated as of December 31, 2006.

Source: St. Lawrence Seaway Management Corporation

Rates And Tariffs

The SLSMC implemented a two per cent cargo toll and ship charge increase for the 2006 navigation season in both sections of the Canadian Seaway. This increase is in accordance with the management agreement between the SLSMC and the federal government, which stipulates annual tariff increases based on the lesser of the annual average percentage change in the Consumer Price Index or two per cent.

Financial Profile

In fiscal year 2005/06,[1] the Seaway generated $76 million in revenues from tolls and other sources, up from $74 million in 2004/05. Seaway operating expenses were $60.4 million, up slightly from $60.2 million. These expenses are related to the management and operation of the Seaway infrastructure, with salaries, wages and benefits accounting for most of this total. Expenditures for the asset renewal program — representing the cost of maintenance and major repairs of locks, canals, bridges, buildings and other infrastructure assets — increased from $32.1 million to $33.1 million.

Table 8-12 shows the financial performance of the St. Lawrence Seaway from 2003/04 to 2005/06.

TABLE 8-12: ST. LAWRENCE SEAWAY FINANCIAL PERFORMANCE, 2003/04 TO 2005/06

(Thousands of dollars)

Year[1]	*Revenues*	*Expenditures*	*Excess of Revenues Over Expenses*	*Net Excess of Revenues Over Expenses*[2]
2003/04	66,555	86,247	(19,692)	(3,087)
2004/05	74,005	98,439	(24,434)	(1,737)
2005/06	76,044	95,455	(19,411)	3,346

1 April 1 to March 31
2 Following contribution from Capital Trust Fund

Source: St. Lawrence Seaway Management Corporation

INDUSTRY STRUCTURE

Part of Canada's marine industry includes a fleet of Canadian-flag operators providing domestic and transborder shipping services. International trade is served largely by foreign-flag operators calling at Canada's major ports.

Domestic Services

Canada's merchant fleet is made up of self-propelled vessels of at least 1,000 gross tons[2] flying the Canadian flag. It carries the majority of domestic shipments of bulk materials on the Great Lakes and along Canada's coastline. By the end of 2006, the fleet included 182 vessels and 2.2 million gross tons.

The dry bulk fleet includes straight-deck bulkers dedicated mainly to grain transportation and self-unloading vessels carrying various bulk commodities. In 2006, this fleet was made up of 62 vessels. Though these carriers are declining in number, they remain the backbone of the Canadian merchant fleet. In 2006, they accounted for 51 per cent of tonnage and 34 per cent of vessels. Tankers, on the other hand, increased their capacity share from 11 to 24 per cent of total gross tonnage despite a decrease in the number of tankers from 35 in 1986 to 24 in 2006. This increase in capacity share was due to the addition of larger units. In last 20 years, the capacity of ferries vessels has also increased, from 12 to 19 per cent of total gross tonnage.

An extensive fleet of tugs and barges was also in operation both domestically and internationally. In 2006, the Canadian Transportation Agency estimated that the Canadian fleet of tugs and barges included 309 tugs (122,000 gross tons) and 836 barges and scows (905,000 gross tons). Approximately eight per cent of the tug population had tonnage greater than 1,000 gross tons and were used in offshore supply.

Table 8-13 shows the transport capacity of the Canadian-registered fleet by type of vessel in 1986, 1996 and 2006.

TABLE 8-13: CANADIAN-REGISTERED FLEET BY TYPE, 1986, 1996 AND 2006

	Gross tons (Thousands of tons)			*Number of vessels*		
Type of carrier	*1986*	*1996*	*2006*	*1986*	*1996*	*2006*
Dry bulk	1,694	1,289	1,109	102	72	62
Tankers	266	159	520	35	21	24
General cargo	74	131	108	19	16	18
Ferries	269	345	408	54	60	72
Other	32	34	38	7	7	6
Total	**2,334**	**1,958**	**2,183**	**217**	**176**	**182**

Note: Self-propelled vessels of 1,000 gross tons and over, including government-owned ferries but excluding tugs used in offshore supply.

Source: Canadian Transportation Agency and Transport Canada

1 Tolls in fiscal year 2005/06 are for traffic in the 2005 navigation season.

2 Gross tonnage is the capacity in cubic feet of the spaces within the hull and of the enclosed spaces above the deck of a vessel, divided by 100. Thus 100 cubic feet of capacity is equivalent to one gross ton. However, capacity of a cargo carrying ship can also be expressed as deadweight tonnes (1000 kg) required to immerse the hull at a particular draught (usually the maximum summer draught).

Eastern Canada

In eastern Canada and including the Arctic, freight services are provided by a fleet of dry bulk vessels (straight-deck and self-unloaders), tankers, general cargo and other vessels. The three largest operators in the Great Lakes–St. Lawrence region are Algoma Central Corporation, Upper Lakes Group and Canada Steamship Lines. Seaway Marine Transport, a partnership of Algoma Central Corporation and Upper Lakes Group, manages the largest fleet of self-unloading vessels and gearless bulk carriers on the Great Lakes, St. Lawrence River and waters of eastern Canada.

Western Canada

Freight services on the west coast are provided in large part by an extensive tug and barge fleet operated by a few well established companies that serve the forest products and construction industries. While most operators are involved primarily in domestic trade, some also trade between Canadian and U.S. ports. Washington Marine Group controls several of the largest tug and barge operations, including Seaspan International Ltd. Smit Marine Canada (formerly Rivtow Marine Inc.) is the second ranked tugboat company in British Columbia. To a lesser degree, freight services in the region are supplied by freight ferries and general cargo vessels.

Northern Canada

In the western Arctic, Northern Transportation Company Limited (NTCL) is the main marine operator for the Mackenzie River Watershed (including the Mackenzie River and Great Slave Lake), the Arctic coast and islands, and Alaska. Utilizing a fleet of tugs and dual-purpose barges, NTCL's principal concerns are bulk petroleum products and dry cargo for communities, defence installations, and oil and gas exploration sites across the North.

In the eastern Arctic, Nunavut Sealink and Supply Inc. (NSSI), Nunavut Eastern Arctic Shipping (NEAS), and NTCL provided sealift service for the Arctic re-supply of dry cargo in the Nunavut regions with services from Churchill and Montreal. While NSSI and NEAS utilized general cargo and roll-on roll-off vessels, NTCL operated tug and barge combinations. Also with services out of Churchill and Montreal, the Woodward Group delivered bulk fuel to the Nunavut region using tankers.

International Services

Marine freight transport at the international level includes bulk shipping and liner shipping. Bulk shipping is the transport of large volumes of homogeneous cargo, often in shiploads. Liner shipping, on the other hand, is the transport of many individual consignments of cargo, often at fixed prices for each commodity, on ships that operate regularly among ports of call on a scheduled basis.

Bulk services are provided under time charters (short-term and long-term contracts) and short-term "spot" or "tramp" contracts, generally for a specified number of voyages or days, or for a given quantity of cargo. The bulk shipping industry operates in a competitive market. Most of Canada's international bulk trade is carried under time charter arrangements on foreign-flag ships. Canadian bulk cargoes include such commodities as coal, iron ore, grain, potash and crude petroleum.

Liner shipping is dominated by large fleets of specialized container vessels operating on major trade routes around the world. The containers are often standardized so that they can be easily transferred to trains or trucks for transport away from the port.

Shipping lines that call at Canadian ports provide liner services either independently or as members of shipping conferences that adhere to rates and/or conditions of service under a conference agreement. These practices are exempt from certain provisions of the *Competition Act* by the *Shipping Conferences Exemption Act* (SCEA), which was amended in 2002.

Competition in the international shipping industry is increased by independent shipping lines (also called non-conference carriers) that offer rates and services comparable with those of conference operators. Shipping lines sometimes choose to be a conference member on certain routes and an independent operator on others.

Most of the Canadian-controlled international fleet operates under foreign flags and employs foreign officers and crews.

Services Available To Canadian Shippers

In 2006, the Canadian Transportation Agency had 13 active shipping conference agreements on file. Conferences are no longer required to file their tariffs with the Agency.

Table 8-14 lists the 13 conference agreements on file with the Canadian Transportation Agency.

TABLE 8-14: SHIPPING CONFERENCES SERVING CANADA IN 2006

Canadian Continental Eastbound Freight Conference (E)
Canada–United Kingdom Freight Conference (E)
Continental Canadian Westbound Freight Conference (E)
Australia–Canada Container Line Association (E & W)
Mediterranean Canadian Freight Conference (E)
Canada Pacific West Coast South America Agreement (W)
Australia–Canada Discussion Agreement (E & W)
Canada Transpacific Stabilization Agreement (E & W)
Canada/Australia–New Zealand Discussion Agreement (E & W)
Canada North Atlantic Westbound Freight Conference (E)
Canada Westbound Transpacific Stabilization Agreement (E)
Canadian Pacific/Latin American Freight Service (W)
AMPAC Cooperative Working Agreement (formerly Columbus/Maruba Working Agreement) (W)

Notes: E = East Coast; W = West Coast

Source: Canadian Transportation Agency

Independent action provisions under the SCEA enable shippers to benefit from competition between conference and non-conference carriers as well as from competition within conferences. These provisions allow individual conference members to offer rates or services that differ from those in the conference agreement. And, with the 2002 SCEA amendments, a conference member now has to give only five, rather than 15 days' advance notice to other conference members if it intends to take independent action.

Under the 2002 SCEA amendments, shippers could use two types of confidential service contracts. The first is a contract between the shipper and a conference member where the terms and conditions are not disclosed to other conference members or filed with the Canadian Transportation Agency. These individual service contracts are comparable to the individual, confidential service contracts a shipper may negotiate with an independent or non-conference liner shipping operator. The second type is a contract between the shipper and the conference for a conference-wide service contract that, while also confidential, must be filed with the Canadian Transportation Agency in order to comply with the SCEA.

In 2006, the liner shipping conferences filed two conference-wide service contracts with the Canadian Transportation Agency,[3] down from five in 2005, 15 in 2004 and 25 in 2003. This decline in conference-wide service contracts should not be interpreted as a decline in the overall importance of service contracts in liner shipping. Most liner shipping cargo is reportedly carried under individual service contracts negotiated between shippers and shipping lines that do not need to be filed with the Canadian Transportation Agency.

PASSENGER TRANSPORTATION

Ferry Services

Most major ferry operators in Canada belong to the Canadian Ferry Operators Association (CFOA); however, there are wide differences in ownership, services and vessel type. Ownership ranges from small, private operators to provincial governments and federal Crown corporations. Terminals and docking facilities are owned, leased and operated by ferry companies, municipalities, private companies and federal and provincial governments. Vessel types range from small cable ferries to large cruise-type vessels and fast ferries. Operations range from seasonal to year-round service.

Table A8-11 in the Addendum provides details on the major ferry services. Most major ferry services also have their own Web sites with information on routes and rates.

An estimated 38.7 million passengers and 16.5 million vehicles used Canadian ferry services in 2005. These 2005 traffic figures for all CFOA members (2006 figures not yet available) give a good indication of the relative size of CFOA operations. British Columbia Ferry Services Inc. is by far Canada's largest operator. It carried more than 21.7 million passengers and 8.5 million vehicles in 2005. British Columbia's Ministry of Transportation and Highways and Fraser River Marine Transportation, also operating inland ferry services, carried another 6.7 million passengers and 3.2 million vehicles. In Quebec, La Société des Traversiers du Québec carried 5.2 million passengers and 2.7 million automobile equivalent units (AEU).

3 Service contracts are pro-competitive provisions designed to maintain Canadian conference legislation in balance with Canada's major trading partners and support the recent trend toward a greater reliance on the marketplace.

In Atlantic Canada, federally supported ferry services are now limited to those provided by Marine Atlantic Inc., a federal Crown corporation, and by Northumberland Ferries Ltd. and C.T.M.A. Traversier Ltée, which are private-sector operators. On the west coast, the federal government provides an annual grant to British Columbia that is directed to BC Ferries.

In 2005, Marine Atlantic Inc. carried 418,105 passengers and 224,356 vehicles between Newfoundland and Labrador and Nova Scotia. Northumberland Ferries Ltd. and C.T.M.A. Traversier Ltée carried 518,457 passengers and 217,081 vehicles. The remaining CFOA members, including provincial operators in Newfoundland and Labrador, Manitoba, Ontario and New Brunswick, accounted for approximately 4.7 million passengers and 2.0 million vehicle crossings.

Cruise Ship Industry

Large cruise vessels calling at Canada's ports are owned by foreign-based companies. Sailing under foreign flags, these vessels offer two basic types of extended cruises: the luxury cruise and the "pocket" cruise, which typically carries fewer than 150 passengers.

After the Caribbean and the Mediterranean, Alaska cruises through British Columbia's scenic Inside Passage are the third most popular in the world. Vancouver and, increasingly, Seattle serve as "home ports" for passengers to embark and disembark. In 2006, Vancouver's share of this traffic decreased by 7.9 per cent to 837,823 passengers. This was mainly because the Port of Seattle was able to attract cruise ships by opening new facilities (7.1 per cent more passengers in 2006) and because world events negatively affected travel and tourism.

In eastern Canada, luxury cruise vessels regularly travel up the eastern seaboard from New York to call in at Halifax, Charlottetown and other east coast ports before entering the St. Lawrence River to stop at Quebec City and Montreal. Shorter cruises also sail out of New York or Boston for Halifax, Saint John and other Atlantic ports. Many ports, including Saint John, have been investing in new facilities to serve cruise passengers.

Other Canadian ports, including Victoria, St. John's and Sydney, also benefit from calls by cruise lines.

Table 8-15 shows international cruise ship traffic at major Canadian ports in 2005 and 2006. Addendum Table A8-12 gives a longer time series.

TABLE 8-15: INTERNATIONAL CRUISE SHIP TRAFFIC AT MAJOR CANADIAN PORTS, 2005 AND 2006

(Passengers)

Year	*Vancouver*	*Montreal*	*Quebec City*	*Halifax*	*Saint John*
2005	910,172	35,359	66,000	188,678	90,200
2006 (prel.)	837,823	40,565	91,000	169,824	88,000

Source: Canada Port Authorities

FREIGHT TRANSPORTATION

At the time of publication of this report, 2005 data on marine origin–destination traffic was not available from Statistics Canada. Therefore, some of the tables in this section could not be updated with 2005 traffic data. Where feasible, Transport Canada has estimated traffic based on data published on the Web sites of the various Canadian Port Authorities (CPAs).

The CPA's domestic and international traffic data for 19 ports were also used to estimate marine freight traffic handled at all the Canadian ports in 2005. In addition, historical transborder, and overseas traffic data were correlated to the international marine trade data (on a value basis) in order to estimate the 2005 traffic flows for each sector. Finally, total traffic handled as well as flows were correlated with Canada gross domestic product at basic prices (in 1997 dollars).

In 2005, there was an estimated 395 million tonnes[4] of marine freight traffic, up 2.9 per cent from 2004. At 69.5 million tonnes, estimated domestic flows[5] accounted for more than one fifth of this, up 0.9 per cent from the 68.9 million tonnes in 2004. Canadian-flag vessels carried an estimated 97.3 per cent (67.6 million tones) of domestic flows. Estimated Canada–U.S. traffic in 2005 totalled 127.4 million tonnes, up 3.3 per cent, while "Other" international (deep-sea or overseas) traffic[6] increased by an estimated 3.4 per cent to 198 million tonnes.

4 Based on traffic flows rather than tonnage handled at Canadian ports (domestic volumes are not double counted).

5 Maritime traffic that originates from and is destined for a Canadian port. Flows count traffic volume only once, in contrast to port loadings and unloadings, for which, in the case of domestic traffic, the volumes get counted twice.

6 "Other" international traffic includes shipments to and from foreign countries other than the United States.

Table 8-16 shows Canada's marine traffic statistics by sector from 2003 to 2005. Addendum Table A8-13 covers the same information from 1987 to 2005.

TABLE 8-16: CANADA'S MARINE TRAFFIC STATISTICS BY SECTOR, 2003 – 2005

(Millions of tonnes)

	Flows			Total Flows	Total Handled
	Domestic	*Transborder*	*Overseas*		
2003	68.3	123.5	183.2	374.9	443.0
2004	68.9	123.3	191.3	383.4	452.3
2005 (Est.)	69.5	127.4	197.8	394.7	464.2

Note: Totals may not add up due to rounding.

Source: Statistics Canada, Shipping in Canada, Cat. 54-205
CPA ports Web sites & Transport Canada traffic estimates for 2005

Table 8-17 compares the domestic and international CPA port traffic in 2004 with that of 2005, as well as the 2005 estimated traffic handled at all 19 Canadian ports. These ports handled 250 million tonnes of marine cargo in 2005, more than half the Canadian total. The rest of Canadian marine cargo, 215 million tonnes, was handled by an equally important regional port system consisting of more than 200 ports located from the Atlantic to the Pacific to the Arctic.

Domestic Marine Freight Traffic

Coasting Trade Activity for 2006

Under Canada's *Coasting Trade Act*, only Canadian-registered, duty-paid ships may transport passengers and cargoes and conduct commercial marine-related activities in Canadian waters. In addition, only Canadian-registered, duty-paid ships may be involved in the exploration and exploitation of non-living natural resources on Canada's continental shelf. If, however, no Canadian ship is available or capable of providing a particular service, foreign-registered ships may apply to the Canada Border Services Agency (CBSA) for a licence to enter Canada's coasting trade.

In 2006, the CBSA issued 95 applications for a coasting trade licence, marginally down from 101 applications in 2005. Of these, 60 were for the carriage of goods, 23 were for a commercial activity and 12 were for the transportation of passengers.

A total of 18 licences were issued to Canadian non-duty paid vessels. Norwegian vessels were the most predominant foreign-flag vessels involved in Canada's coasting trade, having been issued 16 licences. U.S. vessels were the next most frequent, with 12 licences, followed by the Marshall Islands and Liberia, with six licences each.

Again in 2006, the highest percentage of activity continued to be for vessels associated with the oil and gas exploration and production industry. There were 55 tanker requests, 12 for drill ships, rigs and support vessels, and five for seismic vessels. Much of the tanker traffic relates to the requirement for large-capacity shuttle tankers. Table A8-14 in the Addendum shows the share of tonnage carried by foreign-flag ships in the Canadian Coasting Trade.

TABLE 8-17: CANADA'S MARINE DOMESTIC & INTERNATIONAL TRAFFIC HANDLED AT CPAs AND OTHER PORTS, 2004 – 2005

Port	*Millions of tonnes 2004*	*Port per cent share*	*Millions of tonnes 2005*	*Port per cent share*	*Difference per cent (2005 vs. 2004)*
Vancouver	73.6	16.3	76.5	16.5	4.0
Saint John	26.3	5.8	27.5	5.9	4.8
Sept-Îles/Pointe-Noire	17.5	3.9	22.4	4.8	28.0
Montréal/Contrecoeur	23.6	5.2	24.3	5.2	3.0
Québec/Lévis	21.8	4.8	22.7	4.9	3.9
Halifax	13.8	3.1	13.7	2.9	(1.1)
Fraser River[1]	14.9	3.3	15.9	3.4	7.3
Hamilton	12.0	2.7	12.4	2.7	2.9
Thunder Bay	8.5	1.9	8.2	1.8	(4.1)
North Arm Fraser River[1]	4.6	1.0	4.2	0.9	(7.8)
Windsor Ontario	5.3	1.2	5.5	1.2	3.8
Prince Rupert	4.4	1.0	4.4	0.9	0.4
Belledune	2.2	0.5	2.2	0.5	2.5
Nanaimo	2.0	0.4	1.9	0.4	(2.9)
Trois-Rivières	2.3	0.5	2.5	0.5	8.4
Toronto	1.9	0.4	2.4	0.5	26.8
St. John's	1.6	0.4	1.4	0.3	(12.1)
Chicoutimi (Port Sagueny)	0.4	0.1	0.3	0.1	(20.5)
Port Alberni	1.0	0.2	1.0	0.2	(1.6)
Total CPA Ports	**237.7**	**52.6**	**249.6**	**53.8**	**5.0**
Other Ports[2]	**214.6**	**47.4**	**214.6**	**46.2**	**0.0**
Total Handled All Ports[2]	**452.3**	**100.0**	**464.2**	**100.0**	**2.6**

Note: Totals may not add up due to rounding.
1 Due to double countings in domestic traffic for Fraser River and North Fraser River ports, use Statistics Canada data for 2004.
2 Estimated 2005 total traffic (464.2 million) based on historical data and market shares of the CPA ports.

Source: CPA ports Web sites data

INTERNATIONAL MARINE FREIGHT TRAFFIC

CONFERENCE/NON-CONFERENCE MARKET SHARES

Non-conference traffic continues to grow both in absolute terms and as a percentage of total liner traffic. In 2004 (most recent statistics), non-conference lines handled 28.1 million tonnes of cargo while conference traffic fell to 8.1 million tonnes. This means that non-conference operators moved almost 80 per cent of total liner traffic. Non-conference share of liner traffic becomes even more dominant when non-conference U.S. origin/destination transshipped traffic is considered.[7]

The increase in non-conference traffic is due to a combination of independent lines that are establishing new services to Canada and established lines that have withdrawn from conferences.

Table 8-18 compares the conference and non-conference shares of Canadian liner trade in 2003 and 2004. Addendum Table A8-15 shows the same data from 1995. Note that the traffic reported for the conferences includes cargo carried under confidential service contracts that would not be subject to conference tariffs.

In terms of type of cargo, conference operators have been concentrating almost exclusively on containerized traffic in recent years. The year 2004 was no exception, as 98 per cent (8.0 million of 8.1 million tonnes) of cargo was carried in containers. Non-conference operators are also carrying more cargo in containers (22.8 million tonnes in 2004), although this includes general cargo and neo-bulk traffic as well.

Breaking down liner traffic by foreign region of origin/destination shows the relative shares of conference and non-conference operators on different routes. Table 8-19 compares conference and non-conference liner traffic by region for 2004.

MARINE TRADE

According to international trade data, Canadian international marine trade in 2005 increased 10.4 per cent to $130.0 billion (excluding shipments via U.S. ports). Marine exports totalled $60.5 billion, while marine imports totalled $69.4 billion.

Table 8-20 shows the value of marine exports/imports by country of origin/destination in 2005.

The value of exports increased by 11.8 per cent, mainly to the United States, Japan, China and the United Kingdom. Petroleum products and crude oil were the main commodities exported to the United States, while forest products, grains and other food products were the main commodities exported to Japan and China.

The value of imports also increased, by 9.6 per cent, notably with increased cargos from China, Japan, Germany, Norway and South Korea. The main commodities imported from China were textiles, leathers and end products; furniture, major appliances and household equipment; and machinery and electronic equipment.

TABLE 8-18: CONFERENCE/NON-CONFERENCE SHARES OF CANADIAN LINER TRADE, 2003 – 2004

(Millions of tonnes)

	2003	*2004*
Conference		
Exports	3.4	2.5
Imports	6.4	5.6
Total	**9.8**	**8.1**
Non-conference		
Exports	14.9	18.1
Imports	7.3	10.0
Total	**22.2**	**28.1**

Source: Transport Canada, International Database; Statistics Canada

TABLE 8-19: LINER TRAFFIC BY REGION, 2004

(Millions of tonnes)

	Liner Imports		*Liner Exports*		
Region	*Conference*	*Non-conference*	*Conference*	*Non-conference*	*Total*
Europe	2.9	4.2	2.3	3.8	13.2
Asia	2.7	4.4	–	12.0	19.1
Central America	–	0.2	0.0	0.8	1.0
South America	–	0.1	0.1	0.4	0.6
Other America	–	0.4	–	0.5	0.9
Middle East	0.0	0.2	0.0	0.3	0.5
Oceania	0.0	0.1	0.1	0.2	0.4
Africa	–	0.4	–	0.1	0.5
Total	**5.6**	**10.0**	**2.5**	**18.1**	**36.2**

Note: – means Nil; Other America = North America plus Greenland and Saint Pierre and Miquelon.

Source: Transport Canada, International Database; Statistics Canada

7 It is important to note that the data in the tables are not adjusted for U.S. transshipments moving through Canadian ports. Much of this traffic moves on conference vessels but at non-conference rates. The route most likely affected by these transshipments is the one between Europe and Canada. Montreal estimates that approximately 50 per cent of its liner traffic originates in or is destined for the United States. Halifax and Vancouver are also handling growing amounts of U.S. Midwest traffic. This would, of course, overstate the share of conference traffic.

TABLE 8-20: TOTAL MARINE IMPORTS/EXPORTS BY COUNTRY (2005 VS 2004)

(Billions of dollars)

Country of Export	Exports[1] 2004	2005	Percentage change	Country of Import	Imports 2004	2005	Percentage change
United States	13.6	17.3	27.2	China, Peoples Republic	10.7	12.8	19.6
Japan	7.4	7.8	5.0	Japan	5.5	5.6	1.1
China, Peoples Republic	5.9	6.1	3.1	Germany	4.5	4.9	10.6
United Kingdom	2.8	2.9	2.9	Norway	3.9	4.7	19.4
Korea, South	1.8	2.3	23.8	Korea, South	3.4	2.9	(14.6)
Germany	1.7	2.1	22.6	Algeria	2.5	2.8	13.4
Netherlands	1.3	1.5	9.6	United Kingdom	2.9	2.8	(3.5)
Norway	1.5	1.3	(8.0)	United States	2.7	2.4	(9.7)
Italy	1.2	1.4	14.8	Italy	1.9	2.0	7.0
France	1.3	1.3	2.3	Saudi Arabia	1.2	1.7	39.3
Belgium	1.2	1.1	(11.0)	France	1.7	1.6	(3.7)
Taiwan	1.0	1.1	3.1	Venezuela	0.9	1.2	30.0
Mexico	0.7	0.8	1.4	Iraq	1.1	1.2	9.5
Hong Kong	0.8	0.7	(10.1)	Taiwan	1.1	1.2	5.4
India	0.6	0.8	27.8	Belgium	0.8	1.1	42.0
Spain	0.8	0.7	(14.7)	Australia	1.1	1.1	(3.9)
Brazil	0.6	0.7	18.8	Chile	0.8	1.0	23.1
Australia	0.6	0.7	11.2	Brazil	0.9	1.0	13.3
Other Countries	**9.3**	**10.2**	**10.1**	**Other Countries**	**15.8**	**17.5**	**10.4**
Grand Total (Exports)	**54.1**	**60.5**	**11.8**	**Grand Total (Imports)**	**63.4**	**69.4**	**9.6**

Note: Totals may not add up due to rounding.

1 Including domestic exports and re-exports.

Source: Statistics Canada, Cat. 65-202 and 65-203, Special tabulations

Table 8-21 shows the value of the marine share of Canada's international trade in 2005.

TABLE 8-21: VALUE OF MARINE SHARE OF CANADIAN INTERNATIONAL TRADE, 2005

(Billions of Canadian dollars)

	Marine	All Modes	Marine (per cent)
Transborder			
Exports[1]	17.26	365.44	4.7
Imports	2.43	214.61	1.1
Total U.S.	**19.69**	**580.04**	**3.4**
Other countries			
Exports[1]	43.28	70.22	61.6
Imports	67.01	164.30	40.8
Total	**110.29**	**234.52**	**47.0**

Note: Table may not add up due to rounding.

1 Including domestic exports and re-exports.

Source: Statistics Canada, Cat. 65-202 and 65-203, Special tabulations

While Canada's marine trade with the United States in 2005 totalled $19.7 billion, including exports of $17.3 billion, this represented only 3.4 per cent of total Canada–U.S. trade. Most traffic was handled by surface transport modes, such as trucking and rail.

Canada's marine trade with overseas countries (excluding the United States) totalled $110.3 billion in 2005. This included $43.3 billion in exports and $67.0 billion in imports. Marine transport accounted for 47 per cent of all overseas trade by value and was the dominant mode for shipping overseas freight.

Canada's major areas of marine exports/imports are Asia, Western Europe and the United States. Canada's main exports in 2005 (including to the United States) were gasoline/fuel oils ($9.7 billion), forest products ($8.0 billion) and other food products ($5.2 billion). Imports consisted of crude petroleum ($12.9 billion), textiles, leathers and end products ($9.4 billion), machinery ($6.2 billion), automobiles ($6.0 billion), gasoline/fuel oils ($3.9 billion) and other food products ($3.2 billion). For more information on the value and volumes of Canada's maritime trade with the United States and other countries, see tables A8-16 and A8-17 in the Addendum. For a breakdown of principal commodities exported and imported by value, see Addendum Table A8-18.

AIR TRANSPORTATION 9

During 2006, the price of fuel was a concern. Canjet ended all its scheduled air services, while Porter Airlines started operations in the highly contested Toronto–Ottawa–Montreal market. Competition continued to flourish despite the fact that only two air carriers were providing a network of domestic air services at year-end.

MAJOR EVENTS IN 2006

GOVERNMENT

The Government of Canada undertook a number of initiatives in 2006, including proposed new and amended legislation; the negotiation of several international (bilateral) air transportation agreements; a new international air transportation policy; improvements to airport infrastructure; and air travel safety and security measures.

LEGISLATION

Three pieces of legislation were introduced in 2006. Bill C-6 was proposed to amend the *Aeronautics Act* to increase the penalties that could be imposed under that Act, allow certain regulatory infractions to be confidentially reported on a voluntary basis, and permit the Canadian Forces Airworthiness Investigative Authority to carry out flight safety investigations. Bill C-11 was introduced to amend the *Canada Transportation Act*. Air provisions would enable the Canadian Transportation Agency to ensure that advertised prices for air services include sufficient information to allow a consumer to readily identify the cost of an advertised airfare. It would also integrate the complaints function of the Air Travel Complaints Commissioner into the everyday operations of the Agency. A proposed *Canada Airports Act* was introduced as Bill C-20, which would provide an accountability framework for Canada's largest airports, as well as a modern corporate governance regime for the airport authorities. Bill C-47 was introduced following recommendations from the Standing Committee on Official Languages to change the *Air Canada Public Participation Act* to ensure that official languages obligations continue to apply to Air Canada and its various affiliates as they existed prior to restructuring. Bill C-4, known as the *International Interests in Mobile Equipment (aircraft equipment) Act*, which had been introduced in 2005, received Royal Assent during 2006 but by year-end had yet to be fully implemented. The legislation facilitates and encourages international financing using the value of aircraft equipment as the security for payment.

INTERNATIONAL AIR POLICY

In November, the federal government announced a new international air policy, a "Blue Sky" policy, emphasizing the negotiation of open skies-type international air transportation agreements, when in Canada's interests. Open skies agreements remove restrictions in terms of pricing, frequency of service, capacity, destinations served, code-sharing, services to and from third countries and stand-alone cargo services. The Blue Sky policy reflects the evolving nature of the global aviation market and follows on the success of Canada's negotiation earlier in 2006 of an open-skies type agreement with the United Kingdom. Canada also negotiated a number of other international (bilateral) air transportation agreements, including those with Portugal, Algeria, Croatia and Serbia. At year-end, Canada was party to 70 international (bilateral) air transportation agreements.

In 2006, as a complement to the Blue Sky Policy, the international air cargo transshipment program was extended to all Canadian airports subject to application requirements and approvals. The program was previously intended to promote the use of small and under-utilized airports. In 2006, Edmonton International Airport was approved as a transshipment airport. The program allows air carriers to transship international cargo or combine cargo transshipments with other services for which they are licensed through Canada to third countries. Similar transshipment programs were previously introduced at Mirabel (1982), Hamilton (1987), Windsor (1993), Gander (2000) and Winnipeg (2004).

Small Airports Viability

In September 2004, the Council of Transport Ministers agreed that the viability of small airports is a shared responsibility. A federal–provincial–territorial task group was subsequently created to define the mission of small airports and to identify options for future actions. The Air Issues Task Force presented its final report to the Council of Ministers Responsible for Transportation and Highway Safety in September 2006, and the report is now posted on the Council of Ministers Web site at www.comt.ca.

The report lays out the Task Force's findings regarding the missions and roles of small airports in Canada and recognizes that a "one size fits all" solution does not exist. The Task Force indicates that the viability of small airports is linked to a number of factors, including the distance to other airports and transportation alternatives. The Task Force members further note that local jurisdictions are best placed to support a local airport if it represents a community asset and priority.

Safety

In terms of safety, the Canadian Aviation Regulations (CARs) were changed to require airports to assess the risk of wildlife strikes based on their individual situations. As well, an Implementation Procedures for Licencing (IPL) Agreement between Canada and the United States came into effect in December. This agreement permits pilots holding certain licences or certificates from either country to obtain a licence or certificate from the other country if certain requirements are met. It also enhances safety through standards in pilot competence. The IPL agreement was the result of extensive cooperative work between Transport Canada and the U.S. Federal Aviation Administration that evaluated and compared each other's pilot licensing standards and procedures with a view to compliance with standards in the respective countries.

Security

In terms of security, changes to the CARs were proposed to support the implementation by Transport Canada and the Canadian Air Transport Security Authority of a new biometric-based Restricted Area Identity Card, which is issued to personnel working in the restricted access areas of the country's airports. Details and draft regulations were also announced relating to Canada's air passenger assessment program, known as "Passenger Protect." Under this program, action would be taken to prevent persons who pose an immediate threat to aviation security from boarding a commercial aircraft and would include the creation of a list of persons who may pose an immediate threat to aviation security should they attempt to board a flight. Security measures were also put into effect that limit liquids, gels and aerosols in a passenger's carry-on baggage. The federal government also contributed funding to the International Civil Aviation Organization's Security Awareness Training Program.

Industry

In 2006, Canada's air carriers undertook initiatives to overcome cost and revenue challenges. The price of fuel continued to be a key cost challenge for air carriers. The world price for crude oil reached a high of US$78 midway through the year and was overall high in historical terms, despite a receding at year-end. The impact was significant, as it made fuel the largest single operating cost element for Air Canada, ahead of labour costs. For a carrier like Air Canada, every increase in the price of crude oil of one US dollar reduced its operating income by US$28 million. To mitigate the impact of fuel price increases, air carriers engaged to various extents in a fuel price hedging strategy to try to negotiate contracts for future fuel prices with more certainty. The appreciation of the Canadian dollar vis-à-vis the US dollar helped to mitigate the impact of the fuel cost increases, as the price of fuel is set in US dollars. Carriers also faced other cost challenges, such as increases in landing fees at airports, particularly at Toronto's Lester B. Pearson International Airport, Canada's busiest airport.

In a year where cost control was a concern, it was a challenge for Canada's air carriers to generate revenue levels sufficient to cover costs in an environment where low fares remained the norm. With Jetsgo no longer in the market, Air Canada, WestJet and the interlining combination of Harmony Airways and Canjet were the remaining key air carriers operating networks of national scheduled air services. In September, Canjet stopped providing scheduled air services, opting instead to concentrate its operations on non-scheduled charter air services. Some re-balancing of scheduled air service capacity was observed in the marketplace for scheduled air services. This resulted in some pricing stability for the scheduled service operators remaining in the markets previously served by Canjet. In October, Porter Airlines commenced operating scheduled air services between downtown Toronto's City Centre Airport and Ottawa and in December added Montreal. This provided competition in scheduled air services to Air Canada and WestJet in these two markets.

Some innovative fare schemes were introduced in 2006, such as volume pre-purchasing options and, in the case of Air Canada, the unbundling of its fare structure, which permitted consumers of its products to add or subtract features from the fare, such as advanced seat selection or checked baggage allowances, for example.

INFRASTRUCTURE

Canada's air transportation infrastructure includes aerodromes and a civil Air Navigation System (ANS). The federal government has been reducing its role in the management, operation and ownership of airports since 1994, when the National Airports Policy was introduced. Over the same period, Transport Canada's role has shifted from owner and operator to landlord and regulator of Canadian airports. Transport Canada continues to be responsible for the regulation and safety of the ANS, but facility ownership was transferred to NAV CANADA. These changes promote safety, efficiency, affordability, service integration, innovation and commercialization. The transfer process has been largely completed, and updates are posted monthly on the Transport Canada Web site at www.tc.gc.ca/programs/airports/status/menu.htm.

AIRPORTS

There are approximately 1,700 aerodromes in Canada; facilities registered with Transport Canada as aircraft take-off and landing sites. The aerodromes are divided into three categories: water bases for floatplanes, heliports for helicopters, and land airports for fixed- and rotary-wing aircraft.

Most commercial air activity in Canada takes place at certified land airports. Due to their level of activity or location, these sites are required to meet Transport Canada's airport certification standards.

Airport Authorities

Most airport authorities operate the federally owned National Airports System (NAS) airports under long-term leases. The exceptions are the three territorial NAS airports, which are owned and operated by territorial governments, and Kelowna International Airport, which is operated by the City of Kelowna. The airport authorities are incorporated as not-for-profit, non-share capital corporations with independent and publicly accountable boards of directors.

Financial Performance of Airport Authorities

The majority of airport authorities experienced solid growth in their operating results in 2005. The improved results related to increased revenues from passenger and/or cargo growth. Several smaller airport authorities saw their operating results erode slightly, as flat or modest growth in passenger numbers was not enough to offset cost increases. Airport authorities reported continued escalation in costs, primarily in the areas of goods and services and interest charges. Interest charges grew by 22 per cent in 2005, as airport authorities' capital programs continued to mature.

Capital spending at NAS airports totalled $1.2 billion in 2005, with Toronto, Montreal and Vancouver accounting for 81 per cent of the expenditures. Toronto and Montreal are nearing the end of their current redevelopment projects, but Vancouver and Winnipeg have embarked on long-term projects costing $1.4 billion and $572 million, respectively. The six smallest airport authorities spent an average of $1.4 million on capital in 2005, much of it directed at maintaining current infrastructure or replacing mobile equipment. Long-term debt for the NAS airport authorities totalled $9.5 billion at December 31, 2005. The airport authorities continue to use the capital markets as the primary source of funds to implement their capital plans.

Ground lease rent receipts to the Crown increased from $248.6 million in 2004 to $277.9 million in 2005, as airport passenger volumes improved and the rent deferral program ended. Rent figures in the financial statements vary considerably from cash, due to accrual accounting requirements related to the deferrals, and to prior year rent adjustments paid to authorities. It should be noted that the Government's new rent formula came into effect January 1, 2006.

The financial results for individual airport authorities for the year ending December 31, 2005, are shown in Table A9-1.

Airport Improvement Fees

Airport authorities collect airport improvement fees (AIFs) to help finance their capital expenditures. In 2005, AIF revenues increased by $87.7 million to $504 million and represent approximately 24 per cent of total NAS airport revenues. The majority of airport authorities charge an AIF of $15 per enplaned passenger. The Greater Toronto Airports Authority also charges an AIF for connecting passengers. These fees are generally collected through the airlines' ticket systems, with only Greater Moncton Airport Authority collecting its fee directly at the airport.

Addendum Table A9-4 displays the current AIFs for NAS airports.

Capital Assistance to and Investment in Airports

In order to help non-NAS airports finance capital projects related to safety, asset protection and operating cost reduction, Transport Canada provides assistance through the Airports Capital Assistance Program (ACAP). To be eligible for the program, airports must receive a minimum of 1,000 passengers annually, meet airport certification requirements, and not be owned by the federal government. In 2006, airports across Canada received more than $27 million to fund 41 new projects. Table A9-2 in the Addendum shows the allocation of funds by province since the program began in April 1995. Table A9-3 in the Addendum lists ACAP projects approved in 2006.

An example of an ACAP-funded project was the expanded apron at the Fort McMurray Airport, to which Canada's new government contributed $2,005,130. The project involved the expansion of the apron, the construction of an asphalt shoulder, associated drainage and electrical work, and the replacement of airfield signage. It was an example of Canada's new government directing infrastructure resources to where it was most needed, and the improvements contribute to the safety and reliability of an airport in one of Canada's most important economic regions.

Apart from ACAP-funded projects, work commenced on three airstrips at Hopedale, Black Tickle and Postville, Labrador, in order to bring them to appropriate safety standards. These airstrips provide a vital year-round transportation service for those coastal communities, and the work was fully funded at a cost of $1.2 million under the federal Labrador Coast Airstrips Restoration Program. The airstrips are owned and operated by the Province of Newfoundland and Labrador.

Canada's new government also funded the building of a new hangar at the Greater Moncton International Airport in order to properly facilitate essential operational and maintenance support for its fleet of aircraft that deliver vital safety oversight, policing and aerial surveillance programs. The new hangar has the added benefit of providing the airport and the community it serves with additional infrastructure to support the development of an aerospace industry and help retain a highly skilled workforce.

Air Navigation System (ANS)

NAV CANADA provides air traffic control services, flight information, weather briefings, airport advisories and electronic aids to navigation. It is a not-for-profit, private corporation that owns and operates Canada's civil air navigation system. NAV CANADA has the right to set and collect customer service charges from aircraft owners and operators. Most customer service charges are applicable to commercial air carriers. For more information on NAV CANADA, visit www.navcanada.ca.

INDUSTRY STRUCTURE

National Scheduled Air Services

At the beginning of 2006, there were three networks of national scheduled air services. The largest was provided by Air Canada and its sister company, Jazz.[1] With its fleet of 201 large jet aircraft, Air Canada served 12 domestic points, 33 points in the United States and 59 other international destinations. Jazz, with its fleet of 135 smaller aircraft, served 69 destinations that Air Canada, with its much larger aircraft, could not serve in a viable or sustainable way. In effect, Jazz operations complemented and extended the connectivity of Air Canada's network. Air Canada currently has a capacity purchase agreement with Jazz through which it has agreed to charter all of the latter's capacity until the end of 2015.

WestJet operated the second largest network of air services and with its fleet of 63 Boeing 737-series aircraft, served 23 Canadian points, 11 U.S. points and Nassau, Bahamas.

The third network was an interlining arrangement between Canjet, based at Halifax, and Harmony Airways, based at Vancouver, whose points of service intersected at Toronto, with the former operating to points east and the latter to points west. This arrangement ended in September when Canjet ceased operating all its scheduled air services. At the time, Canjet had a fleet of 10 Boeing 737-series aircraft, while Harmony operated four 171-seat Boeing 757-200 aircraft.

1 ACE Aviation Holdings Inc. (ACE) is the parent holding company for a number of services companies and partnerships, notably: Air Canada; Aeroplan Limited Partnership (Aeroplan); Jazz Air LP (Jazz); and ACTS Limited Partnership (ACTS). Air Canada itself is made up of principal operating companies and partnerships, namely: Air Canada; Air Canada Ground Handling Services Limited Partnership (ACGHS); Touram Limited Partnership (Air Canada Vacations); and AC Cargo Limited Partnership (Air Canada Cargo). At the end of 2006, ACE held a 75 per cent ownership interest in Air Canada, following an initial public offering of that company on November 4, 2006; a 50.3 per cent direct ownership interest in Aeroplan; a 79.7 per cent direct ownership interest in Jazz; and a 100 per cent ownership interest in ACTS. Earlier in the year, on February 2, 2006, ACE completed an initial public offering of the Jazz Air Income Fund (Jazz Fund).

Seasonal Air Services

Many air carriers operating large jet aircraft provided charter air services for inclusive package tour operators between Canada and Europe, the United States, the Caribbean and other sun and leisure destinations. Air Transat and Skyservice Airlines specialized in providing air services to leisure and seasonal destinations such as Florida, Hawaii, Mexico and the Caribbean in the winter, while mainly serving European destinations through their summer charter programs. WestJet supplied Air Transat with an expanded market, feeding capacity from mid-sized Canadian airports to southern destinations under an exclusive agreement due to expire in October 2010. Air Transat carries approximately 2.4 million passengers annually with a fleet of 15 Airbus aircraft. Skyservice Airlines served similar destinations with a fleet of 26 Airbus and Boeing aircraft. Three other airlines also served the international charter market: Harmony Airways and Zoom Airlines, each with four Boeing aircraft, and Sunwing Airlines with three 189-seat Boeing 737-800 aircraft.

Although Canjet ceased operating scheduled air services, it realigned its operations and began operating charter air services to sun destinations in Cuba, Mexico, the Dominican Republic, the Bahamas and Jamaica from various Canadian cities for the 2006 – 2007 fall/winter season.

Air Canada and WestJet also provided charter air services for their own inclusive package tour affiliates, Touram LP doing business as Air Canada Vacations, and WestJet Vacations, respectively.

As well, many small air carriers operating fixed or rotary wing aircraft (i.e. helicopters) provided seasonal air services to lodge operations and hunting or fishing camps, or in support of mining, forestry and other resource industries.

Foreign Air Carriers

Twenty Canadian cities benefitted from air services offered by 25 U.S. airlines, while 43 foreign airlines provided services between Canada and 57 international destinations in 39 countries. For a list of foreign airlines serving Canada on a scheduled basis, see Addendum Table A9-5.

Northern Air Carriers

A number of carriers provided jet services in Canada's north, including Air North, Air NorTerra (doing business as Canadian North) and First Air. Others such as Aklak Air, Kenn Borek Air, Buffalo Airways, Arctic Sunwest, Air Tindi and North-Wright Airways also provided air services to remote communities in the Arctic. Most air carriers operating in Canada's north provide medical evacuation, or "Medevac," services and other transport under contract to the federal and territorial governments.

In all, some 45 airlines provided service to remote communities in niche markets. These air carriers and their major areas of operation are listed in Addendum Table A9-6.

Regional and Local Service Air Carriers

Many air carriers served regional niche markets throughout Canada (e.g. Pacific Coastal, Bearskin, Air Creebec).

One such air carrier, QuikAir, ceased operating in October. At its peak, QuikAir had operated more than 20 flights every weekday between Calgary and Edmonton City Centre Airport. In January, however, the Edmonton Airports Authority closed the Edmonton City Centre Airport to aircraft having more than 10 passenger seats. QuikAir, whose primary air service was to Calgary, relocated to Edmonton's International Airport, but this move exposed it to competition from WestJet and Air Canada. Like QuikAir, Integra Air also relocated to Edmonton International Airport; unlike QuikAir, however, it was not as exposed to competition because it primarily served the Edmonton–Lethbridge market, for which there is a greater travel time by automobile and a lack of direct competition from other air carriers. Others, notably Peace Air, were permitted to continue operating from Edmonton City Centre Airport because it operated aircraft with 10 or fewer seats.

Like QuikAir, other air carriers offering regional air services have faced competitive difficulties. In the past two years, Quebecair Express (Quebec), Air Sask (Saskatchewan) and Northern Hawk Aviation (British Columbia) have all ceased operating. In 2006, Hawkair (British Columbia) undertook a financial restructuring and operated a much reduced network.

All-Cargo Air Carriers

Several air carriers provided dedicated all-cargo air services on behalf of Canada Post, courier companies, freight forwarders, consolidators and shippers. These included Cargojet Canada (Mississauga), Kelowna Flightcraft (British Columbia) and Morningstar Air Express (Edmonton). In addition, cargo air services complemented the scheduled passenger air services of many Canadian air carriers.

Business Aviation and Specialty Air Services

Fractional ownership, or "time-sharing," of aircraft is regulated as a commercial air service. The increasing capital and operating costs of conventional aircraft ownership continue to make fractional ownership an appealing alternative, especially among corporate users.

Specialty air services can be as diverse as flight training, flights for parachute jumping, glider towing, aerial forest fire management and firefighting, aerial inspection and construction, aerial photography and surveying, advertising, weather sounding, crop spraying and helicopter logging, as well as hovercraft services.

Licencing for both business aviation and specialty air services is required. Addendum Table A9-7 shows that at the end of 2006, 2,311 licences had been issued by the Canadian Transportation Agency to air carriers to provide air services defined by those permissions. Addendum tables A9-8 and A9-9 show the number of personnel licences issued by Transport Canada and a provincial breakdown of those licences, respectively.

Recreational Aviation

Recreational flying accounts for about two thirds of Canada's pilots and three quarters of all aircraft registered in Canada. It is the largest segment of Canada's civil aviation activity and includes motorized fixed and rotary winged aircraft as well as ultra-lights, gliders and balloons, among others. Addendum Table A9-10 provides information on the types of aircraft operated.

PRICE, PRODUCTIVITY AND FINANCIAL PERFORMANCE

Total passenger revenues in 2005 increased by 11 per cent. Approximately half this increase was due to an increase in price levels, with the rest attributed to an increase in volume of activity. This second straight year in strong activity growth helped the industry to rebound from the demand-depressing effects of 9/11, SARS and the Iraq War and to exceed passenger revenue levels of 2001. However, revenues have yet to meet those of 2000. Overall, over the 2000 – 2005 period, both prices and activity levels were down slightly (-0.4 per cent and -0.7 per cent, respectively).

A large decline in cargo prices (-15.0 per cent) was to some extent offset by an increase in activity level (9.4 per cent). Part of the volatility of air cargo operations indicators comes from cargo data limitations.

In 2005, total factor productivity of the air transport industry overall increased by 7.9 per cent. There was a very large increase in labour productivity resulting from the spin-off of Air Canada's maintenance division and the resulting decline in direct employees. A significant portion of this labour productivity gain was offset by a decline in productivity of other inputs such as the increase in maintenance service costs. Unit costs declined by six per cent in 2005. Declines in the cost of labour and capital contributed to this decrease, as well as increasing load factors. However, unit fuel costs continued to climb in 2005, offsetting a portion of the decline in those categories. Addendum tables A2-61 to A2-64 provide more details on the air transport industry.

FREIGHT TRANSPORTATION

There are no restrictions on routing, capacity or price in Canada's domestic air cargo market. However, Canada–U.S. transborder and other international air cargo services are governed by Canada's international (bilateral) air transportation agreements, other international agreements and national policies.

A number of Canadian air carriers provided dedicated all-cargo air services, notably Cargojet Canada of Mississauga, Kelowna Flightcraft of British Columbia, and Morningstar Air Express of Edmonton, which have a combined fleet of 30 aircraft. In addition, Air Canada provided air cargo service as part of its scheduled passenger air services. Cargo revenues accounted for six per cent of Air Canada's revenues in the first three quarters of 2006. In the North, Canadian North and First Air also provided air cargo services, along with numerous other smaller air carriers.

The volume of goods carried by Canadian air carriers from 1993 to 2005 is illustrated in Table A9-11 in the Addendum. Overall, the number of tonnes carried in 2005 decreased by 0.7 per cent from 2004. Operating revenues generated by goods carried by Canadian air carriers are illustrated in Table A9-12 in the Addendum. Between 2003 and 2004, domestic revenues increased by 3.1 per cent, while international and transborder revenues (combined) increased by 5.1 per cent.

The value of goods shipped by air versus other modes is compared in Table A9-13 in the Addendum. The value of air cargo trade between Canada and the United States in 2006 decreased to $30.5 billion, or 5.5 per cent from 2005. This was more pronounced for exports than for imports. Air cargo's share of total Canada–U.S. trade was 5.3 per cent in 2006.

Table A9-13 in the Addendum also shows that Canada's air trade with countries other than the United States increased by 11.8 per cent in 2006 over 2005. This result can be explained by the surge in exports and imports, which increased by 5.2 and 9.6 per cent, respectively. The air transport mode's share of the total value of trade with other countries was 23.2 per cent in 2006.

The United States, followed by countries in western Europe and in Asia, were the main markets for air transport trade with Canada. High value items such as machinery and electrical equipment, aircraft and transport equipment, and other manufactured goods made up the majority of the goods shipped by air. For a regional breakdown of imports and exports, see Table A9-14 in the Addendum. Table A9-15 shows the value of imports and exports shipped by air and by country for the top 25 countries. Table A9-16 breaks out the commodity groups for goods shipped by air.

PASSENGER TRANSPORTATION

TRAFFIC

Passenger traffic in 2006 reached record levels, with over 68 million passengers, a five per cent increase over 2005. Table 9-1 shows domestic, transborder and international sectors registered growth of seven, four and five per cent, respectively.

For a summary of 2005 traffic at the 26 NAS airports, by sector and region, see Table A9-17 in the Addendum.

DOMESTIC AIR SERVICES

During 2006, Air Canada took delivery of 16 new Embraer (73-seat E175 and 93-seat E190) aircraft, bringing the total of such aircraft in its fleet to 33. Also in 2006, WestJet retired the last of its Boeing 737-200 aircraft and took delivery of two 136-seat Boeing 737-700 and 10 119-seat Boeing 737-600 aircraft, bringing its total fleet of Boeing 737 aircraft to 63. Both air carriers used their newly acquired aircraft to re-balance and expand the capacity of their scheduled air services.

TABLE 9-1: AIR PASSENGER TRAFFIC, 2001 – 2006

(Thousands of passengers)

	Domestic	*Transborder*	*International*	*Total*
Air Passengers				
2001	24,994	18,568	13,196	56,758
2002	23,8[illegible]2	17,575	12,930	54,367
2003	25,[illegible]4	16,585	12,661	54,753
2004	27,372	18,507	14,548	60,427
2005	29,111	19,872	15,824	64,242
2006	31,058	20,643	16,541	68,242
Annual Change (Per cent)				
2002/01	(4.5)	(5.3)	(2.0)	(4.2)
2003/02	5.7	(4.1)	(2.1)	0.7
2004/03	8.5	11.6	14.9	10.9
2005/04	6.4	7.4	8.8	7.3
2006/05	6.7	3.9	4.5	5.3

Notes: Data estimated for 2006.
Passenger Traffic is based on enplaned and deplaned passengers, but results for the domestic sector have been divided by two to avoid double counting of passengers.

Source: Statistics Canada

Increases in travel demand were most pronounced from Alberta's booming economy, and a response from all air carriers serving that province was observed. In April, Air Canada began Saturday non-stop flights between Fort McMurray and Toronto, with same-plane service continuing to St. John's, and in June, the service became daily. During the summer, Air Canada, through its sister company, Jazz, introduced several new daily, non-stop services in western Canada as well as to Yellowknife, Northwest Territories, an important gateway to Canada's north. WestJet introduced new twice daily services for Calgary–Fort McMurray and Toronto–St. John's, and during the summer season provided new services between Edmonton and Halifax, and Vancouver and Hamilton.

In a dispute with the Toronto Port Authority over facilitation at Toronto City Centre Airport, Jazz terminated its air services at this airport in February, which left that airport without any scheduled air services until the commencement of Porter Airlines' services in October.

With Canjet's decision to stop operating scheduled air services, Sunwing began growing its presence in Atlantic Canada, providing air services between Toronto and St. John's, Halifax, Gander, Stephenville, Charlottetown and Sydney, in addition to serving London and Vancouver with its fleet of three 189-seat Boeing 737-800 aircraft.

Addendum Table A9-18 shows a list of new and discontinued domestic services.

Canada–U.S. Transborder Air Services

Canada–U.S. border preclearance was introduced at Halifax International Airport in October 2006. In addition to Halifax, U.S. preclearance facilities are in place at airports in Calgary, Edmonton, Montreal, Ottawa, Toronto, Vancouver and Winnipeg. This program allows U.S. preclearance officers to examine travellers and their goods bound for the United States for the purposes of customs, immigration, public health, food inspection and plant and animal health before their flights depart from Canada for U.S. destinations. Through this program, travellers are treated as domestic passengers upon arrival in the United States. Once there, they have easier and timely connections to other U.S. cities, as well as direct access to U.S. airports that have no customs and immigration inspection facilities.

With an expanded fleet of aircraft, WestJet enhanced its fall/winter 2006 – 2007 schedule with the introduction of new non-stop transborder flights and additional daily flights from Canada to U.S. destinations, including West Palm Beach, Phoenix, Palm Springs, Orlando, Tampa, Las Vegas, Fort Lauderdale and Fort Myers. These destinations followed WestJet's extension of its scheduled service to Hawaii into the fall of 2006, with daily service to both Maui and Honolulu from Vancouver.

Air Canada launched new services from Calgary to New York. Through Jazz, it launched daily non-stop service using Bombardier CRJ-705 jet aircraft between Los Angeles and Edmonton, marking the return of non-stop year-round service in this market for Air Canada.

In May, Denver-based Frontier Airlines, a low-cost low-fare air carrier, began operating a Calgary–Denver service using a 70-seat Bombardier CRJ-700 aircraft and in December announced plans to operate Vancouver–Denver service in May 2007 with a 132-passenger Airbus A319 aircraft.

For more details on both new and discontinued transborder services, see Table A9-19 in the Addendum.

Other International Air Services

A number of Canada's air carriers were designated by the Minister of Transport, Infrastructure and Communities to operate scheduled international air services, as follows:

- April 2006: Skyservice was designated to operate scheduled air services between Canada and Italy. Skyservice indicated its interest to operate scheduled services to Rome and Venice.
- July 2006: Skyservice was designated to operate scheduled air service between Canada and Portugal. Skyservice indicated its intent to operate scheduled air services to Lisbon and Faro.
- August 2006: WestJet was designated to operate scheduled air services between Canada and the Caribbean countries of Aruba, Antigua & Barbuda, the Bahamas, Bermuda, the Cayman Islands, the Dominican Republic, Guadeloupe, Jamaica, Martinique and the Turks and Caicos Islands. WestJet has since started scheduled air services to Nassau, Bahamas, its first international destination.
- September 2006: Harmony Airways was designated to operate scheduled air services between Canada and Australia and Canada and Fiji through code-sharing arrangements. A Vancouver-based air carrier, Harmony Airways indicated that it would introduce passenger air services by operating third-country carrier code-sharing service to Australia with Hawaiian Airlines and to Fiji with Air Pacific. Code-sharing is a marketing and sales practice by which an air carrier can sell seats in its name on the flights of another air carrier that shares with it a common identifying designator code.
- September 2006: Air Canada was designated to operate scheduled air services between Canada and Algeria through code-sharing arrangements. Air Canada's designation followed the first-ever international (bilateral) air transportation agreement between Canada and Algeria, setting the stage for the first scheduled air service by a Canadian carrier between Canada and Algeria. Air Canada indicated that it initially intends to operate third country carrier code-sharing service to Algeria with Lufthansa.
- September 2006: Sunwing was designated to operate scheduled air services between Canada and the Dominican Republic. Sunwing Airlines indicated that it plans to convert its existing charter services to scheduled air services during its 2006/07 winter schedule.
- November 2006: Air Transat was designated to operate scheduled air services between Canada and Austria. Air Transat indicated that it plans to introduce that service in May 2007, initially on a seasonal basis with a view to converting it into a year-round service based on market demand.

In June, Air Canada expanded its service to Asia with three-times weekly non-stop service between Toronto and Shanghai. The service is the only non-stop flight from eastern North America to Shanghai as well as the fastest, saving travellers three hours in each direction compared to a Vancouver routing.

After a 25-year absence, British Airways began operating five-times weekly non-stop flights in December between Calgary and London's Heathrow Airport using long-haul Boeing 777 aircraft.

For the third consecutive year, Zoom operated a low-fare air service on a transatlantic basis between six European airports and seven Canadian destinations.

See Addendum Table A9-20 for a list of new and discontinued international scheduled air services.

COMPETITION[2]

The number of networks of national scheduled air services fell from three to two when in September 2006, Canjet realigned its operations and stopped providing scheduled air services, ending the network it had been providing with its interlining partner, Harmony Airways. Other air carriers, including Air Canada, WestJet and Sunwing, introduced some additional capacity to make up for some of the absence of scheduled air services in Atlantic Canada due to the exit of Canjet. But on a national scale, Air Canada and WestJet were the two remaining incumbents at year-end.

Increases in competitive domestic and international air services were noted to meet the growing travel demand resulting from the strength of Alberta's economy. In addition, several air carriers received designations to operate international scheduled air services from Canada. New designations are an indicator of the potential for heightened international air service competition in 2007 and beyond.

Air Canada along with Jazz provided approximately 61 per cent of the Canadian air carrier industry's overall domestic scheduled capacity, with Jazz providing approximately 96 per cent of Air Canada's regional air services capacity. Within Canada, Air Canada and Jazz operated more than 1,066 non-stop flights per day on 130 routes to and from 60 Canadian airports at the height of the peak summer season.

Air Canada provided approximately 42 per cent of the overall transborder scheduled capacity. Between Canada and the United States, Air Canada along with Jazz operated more than 416 non-stop flights per day on 76 routes to and from seven Canadian destinations and the 48 states of the U.S. mainland at the height of the peak summer season.

Air Canada provided approximately 46 per cent of the overall international scheduled capacity between Canada and Europe and Canada and Asia.

WestJet provided approximately 29 per cent of the Canadian air carrier industry's overall domestic scheduled capacity.

Within Canada, WestJet operated on a year-round basis to and from 22 domestic points.

WestJet entered the Canada–U.S. market in the fall of 2004 and by 2006 held four per cent of capacity, servicing nine transborder points plus Honolulu and Maui. Its services extensively target southern tourist destinations, expecially during the winter season.

See tables A9-21 and A9-22 in the Addendum, and for the summarized results of the top 25 domestic markets, see Table A9-23.

2 Based on Official Airline Guide ("OAG") data.

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